



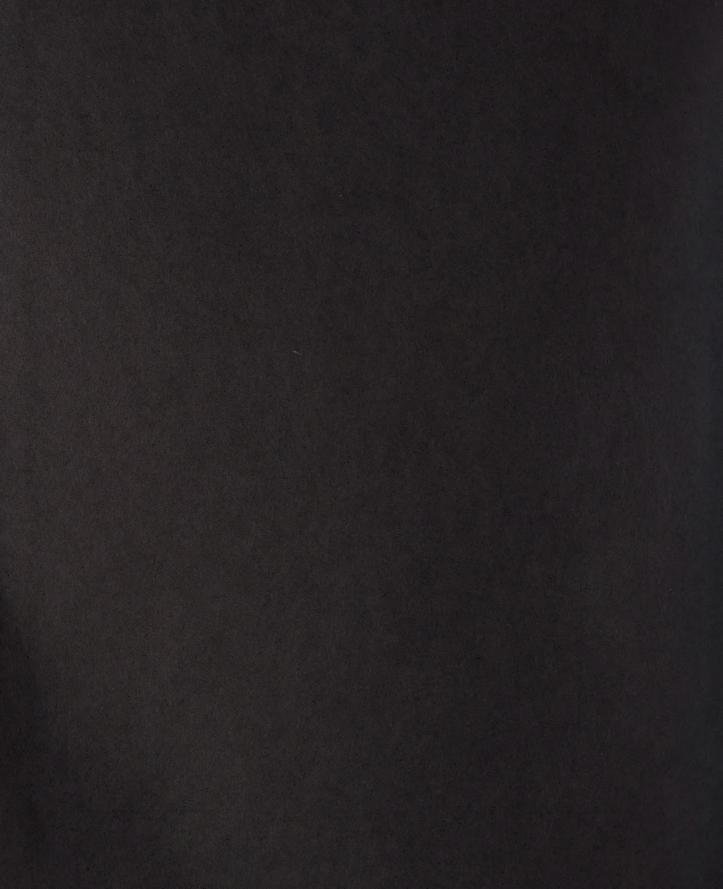
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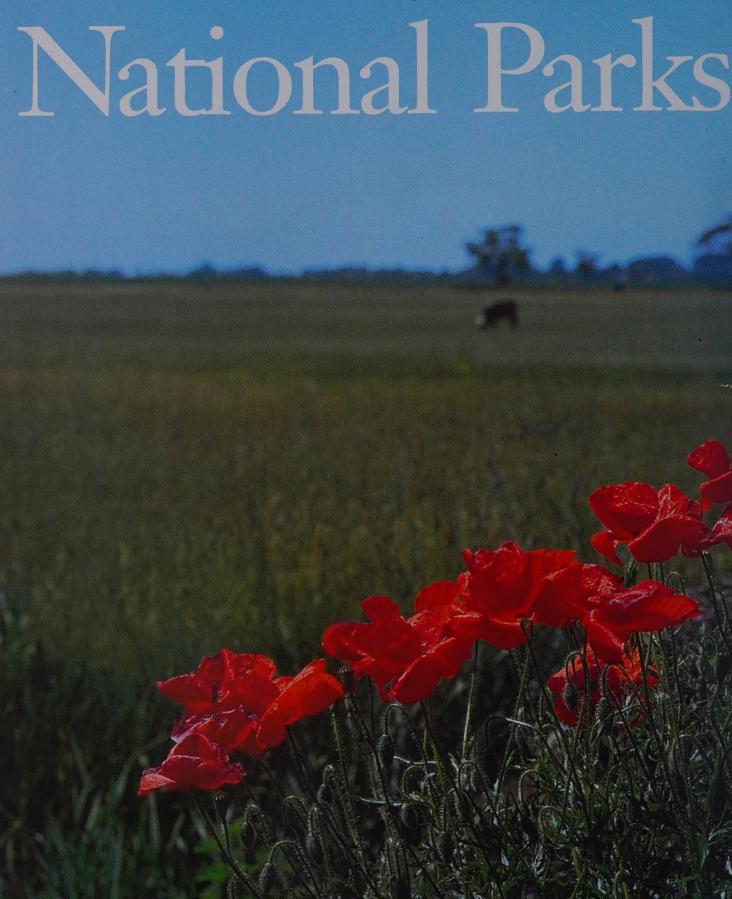


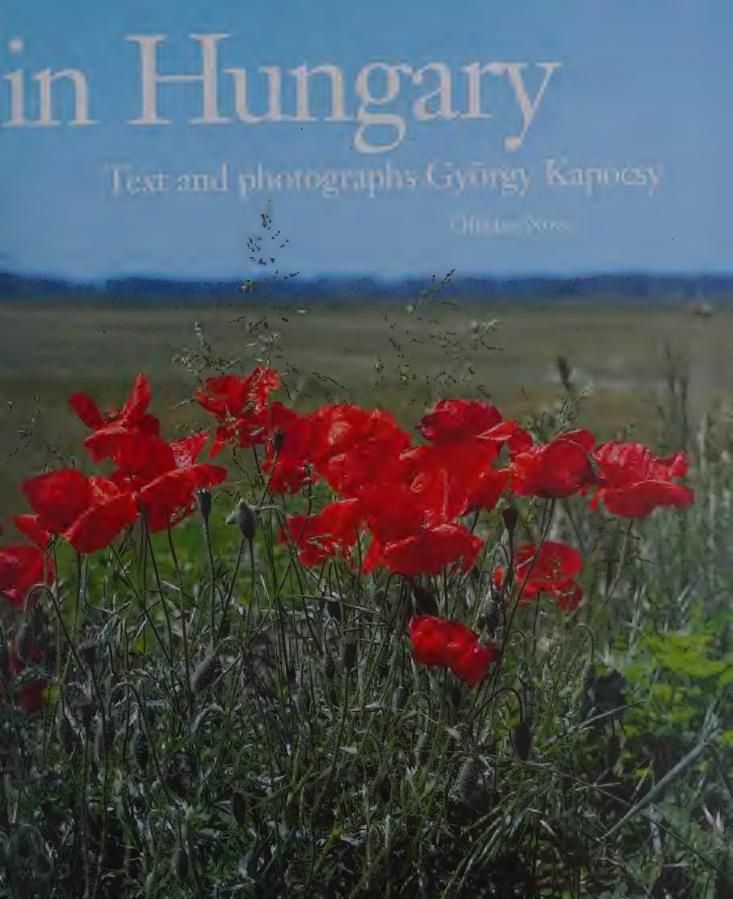
Tellowstone in the USA, the first national park in the world, celebrated its 100th anniversary in 1972, whilst Hungary was creating its first similarly styled "highest level nature conservation area" in Hortobágy. During the past century the number of national parks worldwide has grown to 1500; covering an area more than ten times the size of Hungary. The need for the conservation of these pockets of virgin vegetation and life has become more and more pressing due to man's excessive and heedless destruction of his natural environment over the past decades and centuries. It is certainly in our own interests to preserve certain typical, ancient, natural pictures of our Earth in its original form.

These reserves are far from being pieces of land, merely "fenced" around for their own sake. They provide the increasingly urbanised man with the means for mental and physical recreation, as well as assisting humankind in the acquisiton of knowledge in biology, education and scientific research. Luckily, it is becoming increasingly evident in Hungary that we have an obligation to preserve our natural resources, the native flora and fauna and the landscape itself, in the same way that we feel obliged to preserve and properly foster our national culture, historical traditions, and our folk-art and customs. Five Hungarian national parks (Hortobágy 1972, Kiskunság 1975, Bükk 1976, Aggtelek 1985 and Lake Fertő 1991), more than 130 protected regions and some one thousand protected natural sites show how this endeavour has been put into practice. I am well aware that we Hungarians cannot boast of having a Niagara Falls or a Serengeti, but still, the valuable natural assets, to be introduced on the following pages, are the most important to me! This is because these regions, stones, plants and animals are all part of my Motherland.









## Hortobágy National Park

...let us ride on towards the East, and

we are welcome to a magnificent view: the Puszta, Hortobágy!



...How freely I breathe here, how I feel my bosom dilate!

(Petőfi, 1847)



The famous Hortobágy puszta is a world of contrasts. When I step out of the small garden gate of the folk house, I feel a silent, inner-smile of satisfaction as I watch the world open up before me, and allow my gaze to run into the inconceivable and unembraceable infinity... When I look down, patches of salt, sheep's weed, and shallow waters with their billions of sparkling stars all welcome me as, in the distance, the roundish cones of the tumuluses (these partly geomorphological formations, partly one-time guard hummocks, places of burial) nestle against the horizon... The minuscule details along with the infinite expanse itself, with the blue sky as its only boundary, impress the wanderer here with the power of the monotonous, and yet not boring, uniformity and with the profound silence. There is something inexpressibly majestic in this region... As if man has never lived here! Only on the horizon, where the puszta meets the sky, appear the scattered outlines of small sheep farmsteads, pens and sweep pole wells.

Even the name, Hortobágy, what magic it has... Hearing it still evokes in many of us the image of a by-gone, nomadic and painful ancient puszta... But we can only get to know its real face when we are there: the playful mirage we call délibáb as well as the fascinating contrasts of nature. In the spring, the plains are sometimes flooded with water, but in just a few weeks the drying out begins – and even the barb grass, well-known for its self-sufficiency, has to fight for its life with relentness stubbornness in the crusty, hard soil, cracked into cobweb-like shapes.

Where there was water yesterday, the wind stirs up dust today. Land and sky, water and fire – all are there in the puszta! Sometimes it is the lightning of a sudden summer storm, sometimes it is the spark of human irresponsibility that starts the flames on their way, which have run over a huge area by the time the men of the puszta can order them to a halt.

In an instant, brilliant sunshine can be replaced by a storm, bringing cloudburst and cataclysm to the puszta. Woe betide those who are caught on shanks's pony, bare-headed! ... But the speed with which it appears, is the speed with which it disappears. Stillness and tranquility flood the landscape once again... The smell of rain, shining grass, and, of course, the often impassable dirt-road.

And how grandiously simple is the puszta, when covered with the white blanket of winter. Only from a distance does one notice the vague shapes of a handful of small farmsteads,

with their smoke-billowing chimneys, with the black silhouette of the obligatory well-sweep. They hibernate through the winter fog, silently awaiting the welcome spring... The events of hard, by-gone winters emerge from the pages of time and old, yellowed calendars, when man and animal came to grips with the elements. József Kabai, the sworn notary of Püspökladány reports on the damage caused by the great storm which raged in January of the year 1816. We learn, among other things, of the loss in Karcag of 156 cattle, 13 horses, 4,336 sheep; in Madaras of 72 cattle, 228 sheep, and in Ladány of 204 cattle, 11 horses, 4,394 sheep, 25 pigs. Adding similar data from Polgár, Balmazújváros, Egyek, Csege, Füred, Tiszaörs, Igar, Tiszaszentimre and Nagyiván, we learn that 13 men, 3,724 cattle, 79 horses, 25,483 sheep and 76 pigs froze to death during the two days of the storm. And just imagine how many more natural and human storms the puszta has seen! ...

There is no denying that for many the puszta means nothing. But foreign visitors often equate Hungary with this world; no matter how often our national self-esteem protests against it.

Beside the grand perspectives, each centimetre, each minuscule change in the terrain, has significance. However, the beauty, the interest and the value of the puszta are of a folktale modesty. If someone comes here on the high horse of their urban arrogance, unable to surrender themselves to the unusual atmosphere of the region, to its taciturnity, or if they cannot take the hint of a few plain words, of small quivers, they will, in all probability, turn their back on it and the secret of what one can love about this "big nothing", this "end of the world", this "out of the way" place, will remain hidden to them forever

But just what exactly is there for the pressed-for-time tourist of our century to see in the puszta, during a one or two hour stay? He visits the 92-meter-long Nine-Arched Bridge, in the centre of the Hortobágy, which is still Hungary's longest stone bridge. Or perhaps he has lunch in the famous Hortobágy Csárda, built in popular neoclassic style. For a moment, he halts on the grey asphalt of the road leading from Tiszafüred to Debrecen – then he speeds away in his car, turning his back on the flock of sheep...

But do these experiences really represent the puszta? Yes and no. These are the sights of the puszta but although their



value in conserving traditions is indisputable, they still remain only at the surface. Man recognizes his friend not only by his face, but by his heart, through his inner values, even loves him primarily because of the latter. Likewise, to be able to judge the puszta, this special region, we must duly turn back the wheel of time; because the history of the Hortobágy is very animated!

The Great Plain was still a region of gallery forest when our conquering ancestors arrived here at the end of the 9th century. It was a region of swamps rich in fish and game, of seemingly inaccessible seas of marshes, of fresh-green spots of forests and clearings and of sunkissed meadows of loess pusztas. It is no surprise at all, that old documents report on more than fifty settlements in the Hortobágy, among them 12 with churches. But where are the Árpád-age churches of Balmaz, Csúcs, Derzs, Máta and Ohat today?...

The by-gone forests and settlements, and the churches of the Árpád-age, were mostly destroyed in the 12th century. What does the Mongol invasion of Hungary really mean to our children? "... in order to give you some idea about the sea of sufferings, the flight, the misery, the death entailed by the devastation of the motherland – read the words of István Györffy (1922) – I am going to tell you about the devastation of the Cumanian land, when your great-great grandfather fled, with his scanty belongings and with his family tormented by hunger..."

The Mongol invasion, led by Batu-khan in 1241, attacked Hungary from three directions. Those who could, tried to take refuge in stronger towns, surrounded by walls, while others settled on small islands, or bulging ridges, in the "meadow" (this was the then term used to describe the swamps, which were unknown, and therefore impassable, to strangers). When the Hungarian army suffered an annihilating defeat on the battlefield of Muhi in April 1241, nothing could impede the horde, ravaging and burning forests and villages to ashes. A number of villages were deserted – and most of them were never populated again, their memories only kept alive by the passing down of the names of baulks from father to

As early as 1460, the Hortobágy was referred to as puszta! But the real and utter decay of the Great Cumania began in 1683, with the Turks advancing to Vienna. "Murad Giraj, the Mongol khan assigned to the main army of the sultan ...reached Debrecen, then, advancing through the Great Cumania, he joined the main army". "Old János Aggod, buried on October 23rd, in the year 1768, told us the following on July 26th, 1765, some three years before his death, ... I survived, together with the pigs in the meadow. At the time of the Mongol destruction, the schoolmaster was a very handsome man called Albirsi, he took the children with him into the church, he did not let them go home and there they survived the Mongols, whilst the others, who remained outside in the town, were taken by them."

" ...Mrs. István Kenderesi, maiden name Kata Bir told us the following from her death-bed:

...I also remember that the Turks, on their way back from Vienna, ruined many lives. This land was then in rack and ruin, ... When the Turks (Mongols) took our reverend Harsányi and captain Bálint Nagy, together with my mother-in-law and home folks, I already had three children. We survived within the church. When the old and the young were counted, altogether some 800 people had been taken."

Stories, fates – actually the history of an entire nation is hidden in these lines. One of them says: "... I was a lad and many times we could not even sleep two nights in Kardszag, we just ran, wandered to and fro." Saving the most important thing; their lives. Mihály Kabai says: "But I was everything, I was a master, I was a bell-ringer, I was a priest, because I was the one to stand up to pray at the devastation."

They had hardly recovered from the ravaging, when, in 1691, news about another "Mongol Invasion" began to circulate. In 1697 the scream: "The Mongols are coming" could be heard again...

How did the people of the puszta pray and what did they believe in when starting anew again and again? Where did they draw their moral and bodily strength from? – The answers will only be found by those who – even today – get to know them by sharing their everyday life and not taking root at the csárda.

But let us return to the landscape. True, it would be foolish to think that it was anything else we have been speaking about so far... since when a war destroys human habitation, the environment also perishes. If you ruin your environment, you will also be hit hard by it. After the Turks were driven out of the country, the cultivation of land, and especially animal breed-



ing, grew more intensive, and the deterioration of the natural image of the Great Plain, including the Hortobágy, continued. It was logical for the people returning to the deserted settlements, who badly needed wood to build houses and pens and to provide heat for the winter, to take that wood from the forests in the puszta. Then came the drainage of swamps in the middle of the last century and the control of the rivers, primarily that of the river Tisza. Between 1851 and 1890 no less than 100 of its loops were straightened out. (As a result, the river Tisza in Hungary became 450 kilometers shorter.) The length of the dykes built to resist flooding exceeds one thousand kilometers. Since regular flooding was stopped, the fertile silting up in the flood plain has ceased. The ground water level also decreased. The sodium salt content of the soil in the flood plain is rather high by natural standards – this salt, due to the changing environment, came closer and closer to the surface and made the soil increasingly salty. By this time the huge herds, studs and flocks of the city of Debrecen occupied the puszta – and the presence of these animals also speeded up the process.



The puszta of Hortobágy is not in a pristine state. Human activity has created it. By seeing the puszta, foreign tourists perceive the unusual, the different and most of them like what they see – but it is not with my eyes that I watch it! I love it!

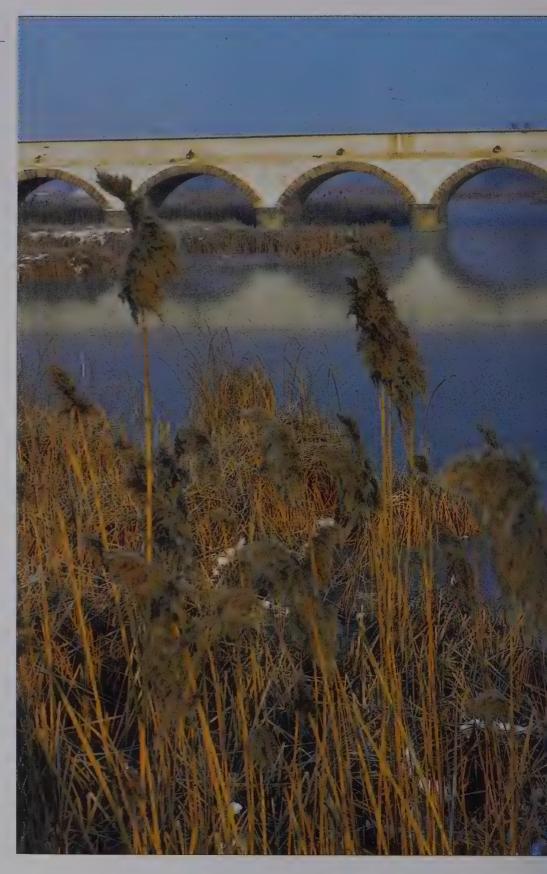
Let us face the real question: If the puszta of Hortobágy cannot be regarded as being in a pristine state, why do we protect it as a national park? – A landscape so unusual, therefore decisively attractive to the eye of a European, that is, a natural sodic puszta, can only be found in Europe in the steppes of South-Russia. Nowhere else! In addition, the special composition and rare species of flora and fauna in the Hortobágy, and, last but not least, its cultural and herdsmen traditions; the still common practice of keeping livestock in the open air until the first snow appears, the flocks and herds of the ancient Hungarian species of domestic animals, each, and in all, make the Hortobágy a treasure worthy of protection and conservation not only in Hungary but all over the world. This was already set down in a memorandum signed by 22 world famous scientists sent to the Hungarian government in 1967, before the national park was created.

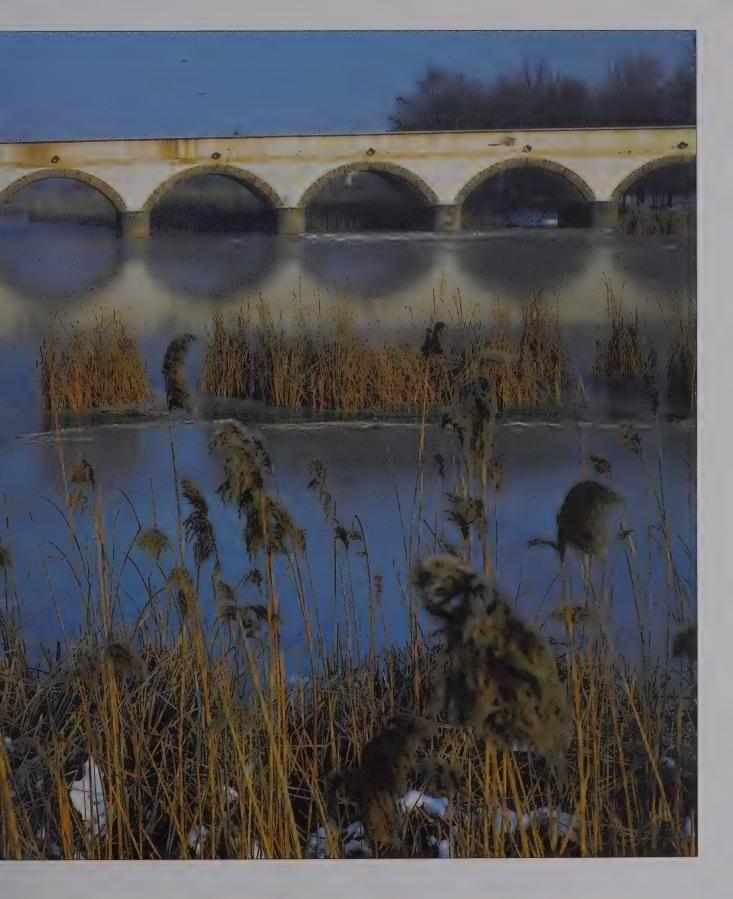
And how peculiar nature can be! As if it was only to prove the above right and resolve doubts: the latest geological research conducted by the Kossuth Lajos University of Arts and Sciences (Debrecen) shows that deep down in the puszta of the Hortobágy, some 4.5 meters under the surface of the soil, there is an ancient salt desert, dating back 30 to 32 thousand years... This is the most ancient sodification discovered in the Hortobágy so far, and it stretches some 25 to 30 kilometers from north to south and some 4 to 5 kilometers from east to west. Interestingly enough, this field it is not the result of human intervention. It has now been proven that what is known as "primary sodification" existed in this region. While the importance of climatic factors was emphasized earlier, this recent research indicates that the bedrock (and its chemical composition) and the ground water also play an important part in the process. We can say, that so diffication is induced by the special connection between the climate, the rock and the ground water.

And finally, whether or not one likes the puszta of Hortobágy remains an entirely personal affair. But the fact that as far as its natural values are concerned, there can hardly be found anything similar to it – and that is a scientific fact. Saving and preserving it is the obligation of us all!

Near Debrecen there flows a stream, Hortobágy by its ancient name, Across that stream a stone bridge fine Is firmly built with arches nine. Across that bridge run herd and stud, Their herdsman smart as a swelling bud. Across it walk some fair dames too. The bonny herdsman's sweethearts two. (Folk song)

One of the symbols of Hortobágy, Hungary's longest stone bridge to this day, designed by Ferenc Povolni, was completed in the autumn of 1833. For centuries, the place itself was one of the junctions in the commercial road leading to Pest and Buda. Initially, ferries solved the problem of crossing the capricious Hortobágy river. But a document dating back to 1346 stipulated a bridge toll. Later, during the Turkish occupation of Hungary, this presumably wooden bridge, must have been either destroyed or hopelessly damaged, because a diploma, dated 1697, orders the construction of a new wooden bridge. In the meantime, oak became so rare and expensive, that, when the great flood of 1830 swept the great, 80-yearold, wooden bridge away, the decision was to build a much more durable stone bridge.







In the middle of the last century, places of accommodation and farmsteads were built on the pastures, since shepherds had to be near the animals all the year round. But these structures were not really long-lasting ones, because the shepherds built them of reed, sun-dried, unburnt brick, and wicker.



The multi-level arrangement of the buildings was typical of the popular architecture of the villages in the vicinity. The dwelling house had the highest roof. This was followed by the stable, whilst the pigsty and the chicken pen were the lowest. The height of the different parts also reflected their order of importance. The partition wall, of course, always faced the prevailing direction of wind, while the entrance to the buildings opened from the inner yard, sheltered from the wind. Unfortunately these typical, old, big manors are slowly disappearing. In the national park, the clean room of the folk house of Nagyiván with the large earthenware, rick-shaped oven, recalls the home of a well-to-do farmer from the beginning of the century.

Storks – although their number is on the decrease all over Europe – still live in great numbers in the Hortobágy. Their arrival in the spring, and their clattering, are part of the atmosphere of the settlements in the puszta.



The existence of the inns was primarily guided by the demands of shepherds who grazed their animals in the neighbourhood. The usual distance between these inns, built along the road, was the distance which loaded carts could make between two feedings and waterings. From among them, the Meggyes inn is now a museum. Its predecessor was built in the last decades of the 17th century. After it was burnt down, the council of Tiszafüred had it rebuilt around 1770. The last inn-keepers were the offspring of a true-born Hortobágy family. The present furniture of the inn recalls the atmosphere typical of the turn of the century.





Prior to the establishment of river controls, floods were a regular occurrence in this region. The waters of the rivers Tisza, Hortobágy, Berettyó and Körös often reached as far as the end of the backyards, therefore all travel, even to the neighbouring settlements, was only possible by boat. The lifestyle of this by-gone waterworld, full of bird noises, is most authentically preserved by the marshes of Kunkápolnás.

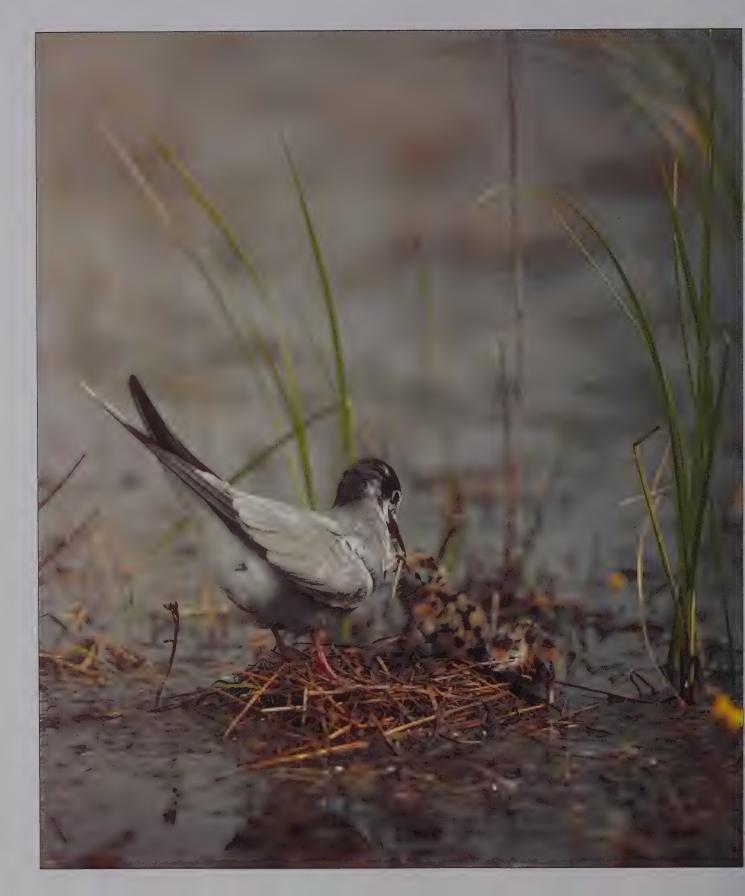
The gracious, whiskered tern normally builds its nest on the leaves of white water lilies,

floating on the river.



Initially, the bird makes a wide foundation, as big as a cart wheel – this foundation is usually made of bulrush pieces – then it lays its eggs in a small hollow, made in the slightly rising middle, to protect the eggs from rolling into the water.







Terns, the swallows of the water, are amongst the most fascinating birds of the shallow, boggy marshes. From among them, the ones most frequently nesting in the greatest number are the black terns. It is far from being a finicky creature it builds its, hardly palmsized nest on either the short remains of tussock or on plant fragments floating on the surface of the water.



Its rare relative is the white-winged black tern. Hungary is the westernmost nesting place for this bird. Young terns, once their feathers have dried after hatching, immediately climb out of their nest and take refuge in surrounding vegetation if they are disturbed or if they sense that they may be disturbed. Protected by their spotted colour, they wait until the danger passes and then return.

"Just like a white, windblown, silken veil" - that is how István Chernel, at the end of the last century, described the great white heron in flight. Then he went on: "In the eyes of Hungarians, the bird has always been the feathered representative of notability, pride, magnamity, therefore, its beautiful, hair-like shoulder-feathers used to be decorations much in demand for by-gone princely robes. Today it brings up its young, not only in natural waters but also in hidden places amongst the extensive reeds of artificial fish ponds.

One of the marshes' most vigilant bird inhabitants is the only species of wild goose nesting in Hungary: the grey-lag goose. Because of its light, ash-grey feathers, herdsmen aptly call it the blonde goose, as well.









Usually, the cautious, greylag goose only venture out to the meadows, bordering the thick reeds, at early dawn or in the evening twilight, to graze or to bathe safely in the shallow waters.



But ganders remain on the look-out and examine the surroundings with undivided attention. If they notice anything suspicious, they immediately draw their young together and swim back.

## Hortobágy

26

Hungary's largest spoonbill colonies can be found in the huge reedlands of the Hortobágy fish ponds, created after the first world war. The spoonbill builds its extremely strong nest they can easily support a man – on the reed stumps which rise above the water in the smaller clearings of the reeds. We refer to them as herons in Hungarian, which is incorrect because they are actually related to our storks. When flying, unlike herons, they keep

their necks stretched out.



Spoonbills got their name from the wide ending of their bill which widens out like a spoon. Fishermen of the last century used the upper mandible of the bill as a spoon. When eating, the spoonbill dips its bill into the shallow water, then, makes scything movements whilst slowly advancing. It collects various water-insects, tadpoles, leeches and small fish. It is so skilful that it can sometimes catch even bigger fish although it cannot cope with them.









The wood ibis, which is related to the sacred ibis of the Egyptians, is the rarest bird in Hungary. Previously it had only hatched its eggs in Kisbalaton. But it has now been spotted in Hortobágy — and thus in Hungary — after a long time at a heronry found in an area of forest in the puszta. In recent times a few specimen have found a place in which to live in the flood plain of the Tisza, as well as in the reedy islands of the fish ponds of Hortobágy.



The young wood ibis, in like manner to the other inhabitants of the heronry, searches for its food in the shallow wild waters of the puszta. This is a rich dining table. Both the smaller and larger reed and bulrush spots are surrounded by open water. Here and there one finds the pink flowers of one or two, or sometimes a whole bunch, of the few flowering rushes growing in the area.

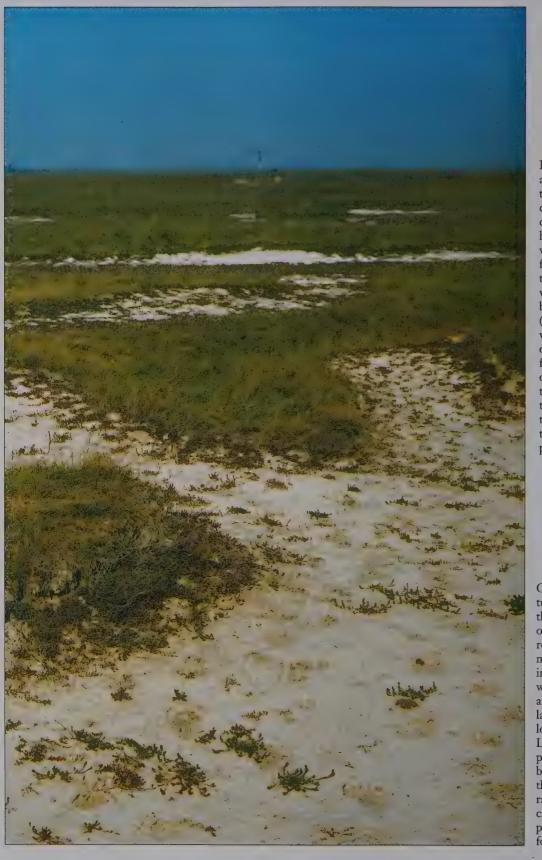
The red-footed falcon occupies the deserted crow and magpie nests in the areas of oak forest and cultivated forest in the Puszta. The red-footed falcon itself never builds nests.

The male is a real, winged hero: with its orange-red feet it resembles the Hungarian huszár dressed in his blue attilla. One can observe the bird looking for food. It may be sitting on electric wires and pylons, or soaring through the open air of the Puszta as it searches for locusts. It can also be seen flying above the waters trying to catch demoiselles. While flying, it uses its "fingers" to catch the hard wing-cased water-beetle. It picks off the chitin carapace and it immediately eats the insect or takes it to feed its nestlings. Since most of its diet consists of insects, it is often mockingly referred to as the "insect-collector falcon".



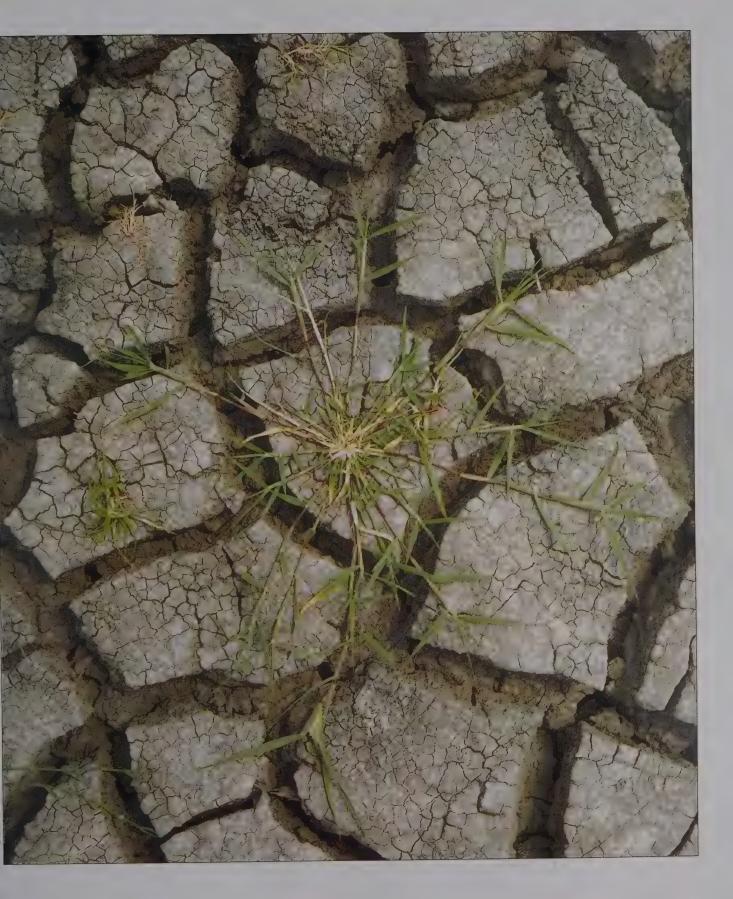


"Hortobágy, puszta (steppe) region in east central Hungary between the Tisza River and the city of Debrecen. In the medieval period there were many flourishing villages in this formerly fertile region, but under Turkish rule the area became depopulated, agriculture declined, and the region became a grazing area known for its horses and horsemen. After the regulation of the Tisza in the 1840s, the Hortobágy became dry and barren, and betyár ('highwaymen') roamed the mostly deserted area. In recent years irrigation has made agriculture possible in a large part of the area and the population is increasing. Traditions and folk art still survive in the towns of Hortobágy, such as Hortobágyi Nagycsárda (Great Inn of the Hortobágy), which has stood on the same location for five centuries. This is the traditional centre of the Hortobágy, where the road between Debrecen and Budapest crosses the Hortobágy River. It has a folk art museum and an annual fair that includes horse shows, contests between horse herds, and the kidnapping of brides, a local custom. To preserve the rapidly disappearing steppe with its interesting flora and fauna, the National Park of Hortobágy (128,500 ac [52,000 ha]) was created in 1973 in the region between the Tisza and the city of Debrecen. Herds of cattle and semiwild horses driven by herdsmen in traditional costumes roam the immense grassy plain, which is also the abode of many water birds including various types of herons, black storks, white spoonbills, geese, and ducks, as well as buzzards and falcons." (The New Encyclopaedia Britannica)



Every living creature on the dry, alkaline, flat Puszta has to adapt to the rough and rigorous conditions created by a continental climate. Those who have never become acquainted with it, would imagine it to be flat. But if we observe closely, it turns out that it is divided into well-defined layers. It was broken up by natural forces (especially precipitation, the wind and the Sun). At the base of the salt precipitation one can find the amorphous white spots of salinization demonstrating that the only plants able to live there are those which are able to tolerate alkaline land. These are the sheep's weed and the sea plantain.

Once it is soaked with rain, it turns into a saturated, sticky, thick mud. Then once it dries out, it returns to a soil as hard as rock. It is no wonder that the man-made fish-ponds were built in those parts of the Puszta which are unsuitable for anything else; the parts of this land which the herdsmen have longed referred to as the Ugly Land. This is the most desolate pasture, and the worst roads can be found here. The places where the puddles dry out quickly after rain, are full of networks of fine cracks, and the few surviving plants have to really fight for life.



At the beginning of May, after the spring waters have dried up, our bird, the size of a thrush, but much more graceful, the tern, arrives. It scratches a small hollow in the barren ground and fills it with wormwood, or it follows some cattle and puts its three eggs, safe with their protective coloration, into some dried cattle-dung, the so-called infant-dung. It also likes to fly around flocks of sheep, where it can catch the insects disturbed up by the sheep.

For days it shades its nestlings with its own body, since they would soon die in the heat of the sun. However, once the nestlings leave the protection of the nest, they usually find protection in dried out hoof-prints or in the shadows cast by grass, or cracks in the ground.









The wild camomile is our most widely known herb, and grows throughout our settlements in the Puszta. It is collected with the help of a specially designed and prepared, crested shovel.

The short-eared owl, is not a common bird anywhere in Hungary. It does not nest here annually, since Hungary is on the southern border of the owl's European nesting territory. Its periodical appearance in Hungary is due only to a plentiful food-supply, that is, to the more-thancommon meadow-mouse, which it can sometimes find in our lands. Once they arrive, at the end of April, they announce the occupation of their territory by a characteristic nuptial flight: while flying vainly, they clap their wings under their bodies.



As the weather becomes cooler, the purple sea of blossoming salt marsh aster stands out against the muted flowers of the alkaline Puszta. It is as if Nature would like to compensate for the lack of an orgy of colors during the long, hot Summer days.

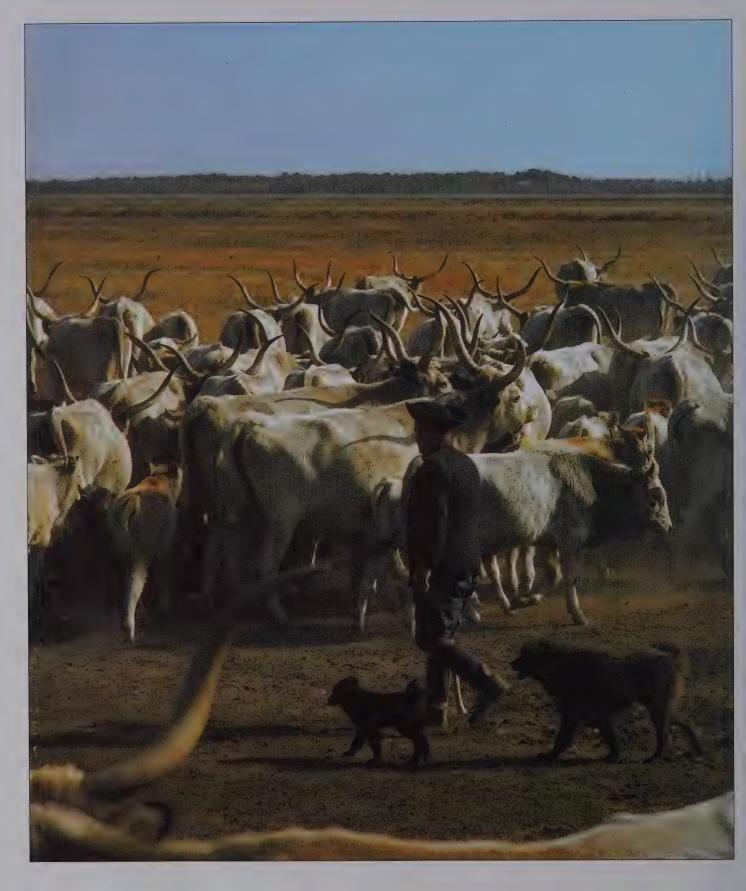




For a long time we have thought that one of the ancient Hungarian domestic animals, the grey Hungarian cattle, were introduced into the region by the Hungarians who first occupied the Carpathian Basin. However, research shows that there are two different possibilities: they were brought into the territory of today's Hungary by the Cumanians during the era of the Mongol invasion, or, according to the other theory, they were bred here after the introduction of Christianity, which prohibited the human consumption of horse-meat because it was considered to be a barbarian tradition.



No matter which theory is the correct one, the centuries gone by have proved that, prior to the irrigation of the river Tisza, the territory of the Hortobágy provided an excellent base for cattle-breeding. The regular floods ensured rich grass during the summer, as well as the necessary moisture for the soil. At the same time, the grey Hungarian cattle proved that they could excellently tolerate the extreme living conditions: the damp marshlands and the alkaline pastures, the hot summer sun and the rough, nomadic lifestyle forced upon the stockmen due to the lack of natural fodder.



(...) The row of carts has been broken. The cattle are nearing. They are lead by a tall man. His soaked hat is corner-edged and pointed; his mustache is long, sagging, he looks like... a Mongolian chieftain... He moves with dignity. The cattle follow him but when they smell the scent of his felt cloak, they stop. A prime, iron-grey bull presses toward it. The timid ones are encouraged by the shepherd boy...

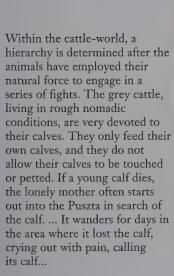
The arrival of the Hungariansnotes one city dweller.

- notes one city dweller.

– It really must have been like this! – ...

(Ecsedi, 1927)







The souslik alerts its companions by whistling out aloud. Running to the entrance of its underground passage he stands still and watches curiously.

How in Heaven do these robust oxen follow the orders of the short herdsman and his small dogs?! During the Middle-Ages, and later, too, venturesome traders had moved the grey cattle, not only to the nearest cattle-pen, but much farther, to Vienna, to Regensburg, to Nuremburg, to Munich, to Ulm and to, God-only-knows how many, other far-away cattlemarkets. It was a much-wanted item due to its first class meat.





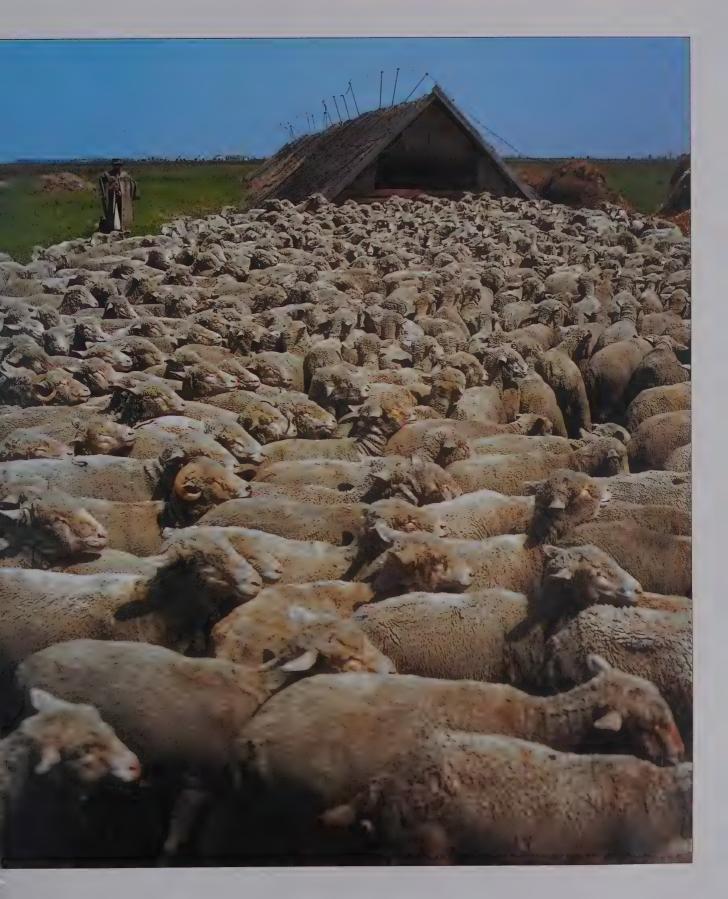
The shepherds wore wide sheep skin coats to fight off the cold. It was prepared by furriers from the 20-30 cm. long fur hanging in ringlets from the black and white Hungarian sheep. This sheep with its long, twisted horns is one of our ancient domestic animals.



Their most trustworthy companions are naturally the dogs: the special, Hungarian sheep-dogs, the puli, the pumi, the mudi, the kuvasz and the komondor. The ability of the puli has already given rise to many legends. He understands his task after just a small gesture from his master: he shepherds, he keeps together, he protects the cattle.

The sheep are kept in a characteristic shelter during the night and the winter months, the socalled sheepcoat, or as it is called in the Hortobágy, the "shelter sitting on its back". Its name is derived from its structure, namely its thatched roof which hangs down to, and reaches, the ground. Any observer would think that the building consists only of the roof, as though its builders had forgotten to build the walls. There are big wooden

gates at both ends of the building. Inside there is a short manger equipped with the built-in milking device. The shepherds used to prepare cottage cheese and cheese from the milk.







What would the horse of today's Hungarian look like? What kind of horses would be grazing on Hortobágy? In Hungary's early centuries, horses were the most honored animals. It was characteristic of the occupying Hungarians to bury the horse and the saddle together with the master. The horses reconstructed from archeological findings have smaller bodies, shorter necks and broader heads. With breeding though, this ancient horse has changed completely. The first written record of the Hortobágy

stud dates back to 1671.





Every gathering of people has to deal with the criminal element within and with vagrant rogues and thieves, too. The fire caused deliberately, or by chance, alerts every living person. ... It is extinguished with the help of brushwood besoms and shovels.



The humble shelters used to protect the everyday equipment and personal belongings of the shepherds. The kitchen of the puszta: the "iron" was prepared by putting together two sheafs of reed and it was called an iron after its design. The fire burning under the cauldron, in the middle of the kitchen, is not disturbed by even the strongest wind. The smoke finds its way out through the sheaves of reed leaning towards each other.

The November dawn is greeted with the cooing of a flock of cranes... They were honored as the ancient bird of the Hungarians, and for good reason too. Their role as watch-birds gave the Hungarians early warning of the approach of a stranger. One of the signs highlighting the honor bestowed upon this bird, is the fact that centuries ago noble households used to keep one or two domesticated cranes. This tradition was alive up to the turn of the century when some of the peasant households looked after cranes that got hurt, or froze, during the migration. Shepherds used to wear hats decorated with crane feathers, until they were replaced recently by bustard feathers. We have knowledge of the fact, too, that shepherds in the Hortobagy used to cat the meat of the crane. The last crane to hatch eggs in Hungary was observed in the early years of this century. However, as migrating birds, thousands of cranes still fly over the pusztas of Hortobagy and of the Southern part of the Great Plain. There is hope that some might hatch eggs here again, since there are now some cranes which spend their summers here.



## Kiskunság National Park

The place my heart and soul
Have always longed so much to see again,
I'm back at last to this land of my birth,
Kiskúnság's mighty plain!

(Petőfi, 1848)



wonder if I could have chosen a more suitable compass for ny ramblings in the Kinkunság, than the poet's immortal ines? And I wonder whether is it a coincidence, that after the Hortobágy, Hungary's second national park was set up right here, in the Kiskunság, where Petőfi was born?

We can be sure that it was not due to the person of Petőfi, hat the decision was made to site a park on the Kiskunság, but pecause of all the beauty and the valuable nature, which Petőfi and sung of, with an almost inventory-like thoroughness and precision, in his poems, one and a half centuries ago. 150 rears! ... five generations. This entails not only the swift pasage of years and decades, but also the possibility, the necesity, of the, often fundamental, changes taking place in a regon. It is especially true in the case of the past years and decades ncluding the time, when it was an official obligation "to transorm and conquer nature!" ... So, what is left of the Kiskunság of Petőfi? – I asked myself this question peremptorily, when he suddenly rising wind, the forerunner of the impending torm, made me return to the present for a moment and oused me to fast action. More precisely, it drove me away rom the sand drifts and back to the protection of the nearby armstead. There is no denying the fact that grains of sand vere cracking, even between our teeth! ... It was then that we could really feel the personal cost, which the drift-blown sand till means to the people of the Kinkunság. The March winds tir up an almost desert-like sand storm around Fülöpháza. The winds continue to shape the sand dunes, which were prought here by the Danube, and still preserve their natural tate, just as it used to shape them when they were born, in the geological past. It is small wonder therefore, that people in the armsteads used to put a shovel and a spade in the corner of the room so that in the morning they could free themselves from behind the doors and windows, barricaded by the sand blast.

Our hosts say that the remarkable running amok of the Bugac-puszta stud in 1939 is also attributed to such a sand torm. Hundreds of foals ran away... A group of them, foaming rom head to foot, ran to the Main Square of the city of Kecstemét, and one will never know whether the vendors or the oals were more terrified? After the poor animals kicked apart the tents and the merchandise of the fleeing vendors, they kept on running, panic-stricken, until they were blocked by a closed rail bar. The leaders of the city drove the exhausted animals to the yard of the city hall and it was only the next day,

once the foals had settled down, that they were driven back to Bugac-puszta.

Once again the wind renews its attacks... – and where the straggling vegetation gets damaged, the wind immediately begins to eat away the soil, digging out a "sand hole" in the surface. If the wind continues its work, sooner or later a furrow is formed, stretched in the direction of the wind. The displaced sand can sometimes travel unbelievable distances on the wings of the wind, but more often than not, the wind merely rolls the billions of grains of sand in front of itself and lets them settle right at the end of the furrow. This way a rounded-off heap is slowly formed, burying any trees and bushes which get in its way. Meanwhile, in the place where the sand came from, the surface roots of the relatives of these crees and bushes, reminiscent of huge spider legs, are trying to give some support to the trunk. Fighting for their lives, saving what remains to be saved...

The barren, drift-blown sand is still a great trial for plants, animals and man. At this time the animals rode out the tempest by hiding in stables or in places sheltered from the wind. Only when the wind dropped, did we dare to come forward to see the eerie red light of the sunset. And then, just like a distant cry for help carried on the wind, an interesting bird call caught our ears. After a short pause, we heard the gargling, sharp shriek, bursting out from the depths. The stone-curlew! Or, as the locals call it: sand-curlew. It cried.

The next day we set out at early dawn to search for it. We did not have to wait long. All of a sudden, through our telescope, the huge, yellow-eyed bird appeared, with its snake-like gaze, sitting motionless on the protuberant ridge of one of the big wind-blown furrows, scrutinizing the neighbourhood. Well, it had good reason to be on the look-out. In an out-of-the-way corner of the furrow, we soon found its nestlings, perfectly blending into the environment.

When we summarized the Hungarian ornithological data from the past nearly one hundred years on what we call a point map, it showed that this bird, when settling down, preferred, or still prefers, drift-blown sand, salty soil and mud flats. Over the past one hundred years, the stone curlew, as a nesting bird, has disappeared from many places, primarily because of the transformation of the environment, but the sand of the Little Cumania has remained its permanent nesting area.

But the literary research had a surprise in store. When we



compared the map documenting the average

annual sunshine duration to the data of the stone curlew, we found that in Hungary the bird breeds only in places where the annual number of sunlight hours reaches or exceeds 2000. In Hungary, it is the Little Cumania where sunshine duration is the longest. But this region does not only excel with respect to the highest number of hot days (25 to 30 a year), but also with respect to the absolute cold-warm maximums. The special microclimate of the sand, its effective heat-absorbtion ability and heat reflectivity, further increases the extremes. This explains why the region makes the perfect home for species of animals, whose conterminous, wide habitat is in the Mediterranean zone. The most populous group of the colourful roller can also be found in the Kiskunság. For the Balkan wall lizard, Hungary is the northernmost and, at the same time, the westernmost place of its habitat.

As for annual precipitation, the Kiskunság has amongst the lowest average in Hungary (the annual precipitation was 514 mm between 1901 and 1950). Therefore, it is really quite astounding that the flora survives in such conditions. The roots of a number of dwarf shrubs reach down to a depth

of two meters, or more; with a little exaggeration we could say that they work as a deep driven well. But there are also other forms of acclimatization: many plants develop a waxy coating to reduce evaporation.

And what could the people of the Little Cumania do? They fought against the drift-blown sand unceasingly, throughout the centuries. It is as difficult to describe the hard, persistent work required to bind the sand, as it is to find the right words to praise the results. Those sandy areas, which the wind attacked the hardest, were sown with grape vines. Those who ventured onwards, established their futures - but the wind practically blew the soil out from under the feet of those who sat idle. But the Hungarian peasantry accomplished a miracle: flourishing vegetable gardens and orchards prove that their efforts were not in vain. Even

the Swiss-born Ede Weber bought more than two thousand acres of land, and he also brought settlers with him. This is how the new settlement, which he, out of respect for his motherland, called Helvetia, was established. An old anecdote holds – and who can now tell if it was true or not – that the Hungarian Post, by mistake, forwarded a letter addressed to Helvetia, to Switzerland. The letter returned to Hungary with the following note on it: Helvetia is in Hungary, 11 kilometres from Kecskemét.

The Kiskunság preserves not only the integral values of nature, but also the way of life, the struggle of the people living here, a part of Hungarian history and a period of reality. Even if it has been slowly, but continously perishing, the farmsteads, so typical of the region for centuries, can still be found. The existence of the farmsteads, was one of the reasons why the territory of the National Park could not be marked out as a single, conterminous area. As opposed to other national parks, here six separate units make up the national park, representing and preserving the multi-coloured and variegated aspects of

the region lying between the rivers Duna and Tisza. Because of its separate units, many call it the "mosaic

National Park."

Let us begin the introduction with the church hill of Alpár, with this interesting, high, loess bank. From here we can look down at the plain of Alpár, where, as the chronicle of Anonymus writes, our ancestors, the conquering Hungarians, drove away the troops of Zalán in 895. This historic place is organically connected to the area called Tőserdő.

This dead channel of the Tisza was created as a result of the control of the river Tisza in the middle of the last century. The Dead-Tisza in Tőserdő and the neighbouring Carcass-Tisza, lined by willow-groves, fenwoods and gallery forests, recall the rich flora and fauna of the one-time capricious Tisza bank.

One of the biggest and in all probability the most frequented places of the national Park is Bugac. It is a famous, internationally renowned place



of excursion. Beside the replicas of the old herdsman's huts, visitors can also become familiar with the practice of a special kind of animal breeding, typical of Hungarians in historic ages. Animals were kept outdoors all the year round, in the winter they were merely driven into the shelter of uncovered or half-covered buildings. From among the ancient species, here we can find the grey Hungarian cattle, the black and white Hungarian sheep, the "blond" mangalica pig, as well as the shepherds' most faithful helpers, the dogs: the *kuvasz*, the *komondor* and the *puli*.

Hardly have we left the puszta behind us, at the National Park Museum, when the sand has the upper hand again. There grow juniper groves and poplars in the furrows blown out by the wind. That is why the region is called "Ancient juniper grove". But we should not be led astray by the attribute "ancient", because, centuries ago, when precipitation conditions were more favourable, a much denser forest covered the area. The sand only began to move again as a result of the combined effect of large-scale forest-clearing and grazing.

The reedy, boggy, furzy, marshy, tract land of the Kolonlake of Izsák, is the favourable habitat of fish, amphibians and

reptiles, but aquatic birds also live here.

Near Fülöpháza, Fülöpszállás and Szabadszállás, there are natural lakes formed in the hollows of the salty soil surface. The high salinity and the dynamically changing water level of these lakes, provide special living conditions for the birds. Compared to the quantity of water these lakes hold, they are extremely shallow, and since they hardly have any surface water supply, they often dry out in years when there is not enough precipitation.

Apajpuszta has much in common with the Hortobágy, although its geological, pedological development was different from the sour, salt deserts of the region between the Danube and the Tisza. Beside the reviving of the lives of bygone horse herds and shepherds, its great bustard population

is worth mentioning.

In 1990 a new territory added to the wealth of the Kiskunság National Park. Throughout the previous fifteen years, the region around Orgovány operated as a nature conservation area. Its significance lies in its variety; marshes, wet meadows, sand hills, alkali puszta and salt lakes.

Reaching the end of this short list, I think I can face the question often put to me: what does the Kiskunság mean to me? ... Having collected my experiences in my satchel, and most importantly, having photographed them with my camera, it is easy to answer: to me it means Petőfi! Because Petőfi is the Kiskunság himself. And as this region is an indispensable part of my country, so it is equally special to my heart.

Here, between the embracing arms of the Danube and the Tisza, in Apajpuszta, covered with camomile, at the Dead-Tisza of Tőserdő, on the sand dunes of Fülöpháza, and in the small farmsteads nestling against them – in the National Park of Little Cumania – I have found the Kiskunság of the poet. In the intactness, he might have seen his homeland. And I, myself, experienced the everyday struggle of the people who have been fighting against the shifting sand for centuries and who give not only their toil and efforts, but also their belief in the results, and the golden dew of their sweat for the tomorrow. And that is why I am convinced that we can conserve and admire the natural values of the Kiskunság for a long time to come.



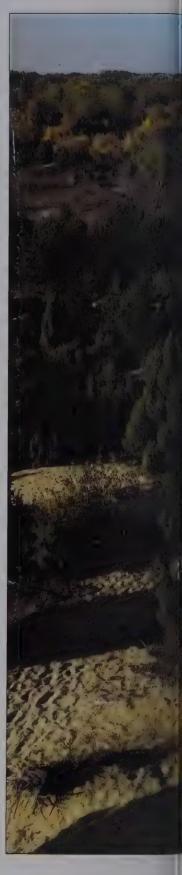
The blue globe-thistle is a well-known and typical bloom growing on the sand dunes of the region between the rivers Danube and Tisza.

The sand crocus has chosen a peculiar way to adapt. Its pale, lilac coloured flowers bloom in the autumn, and it bears its fruit in the spring.

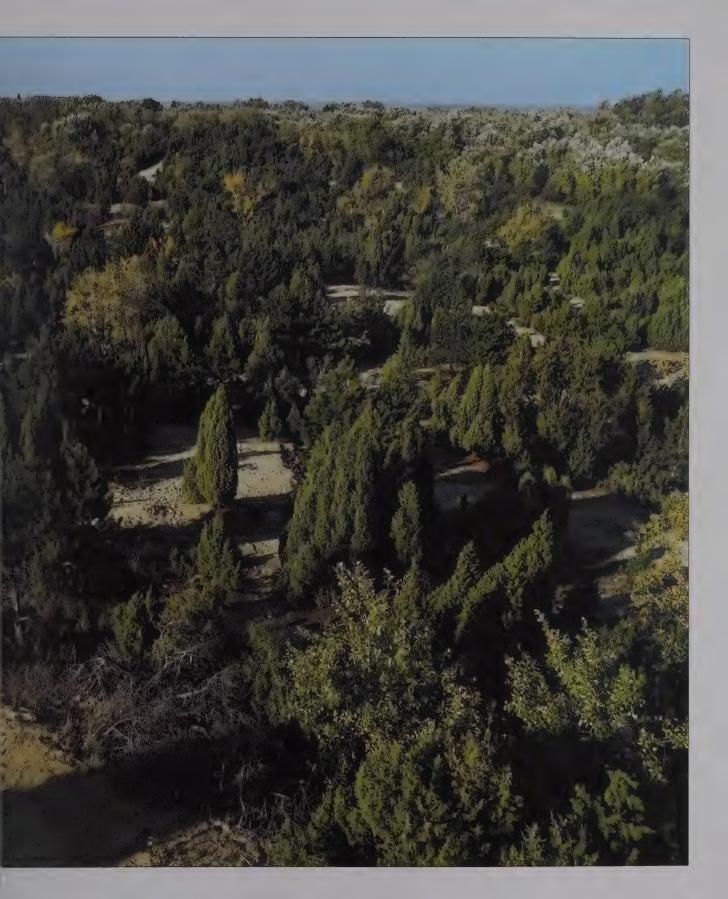








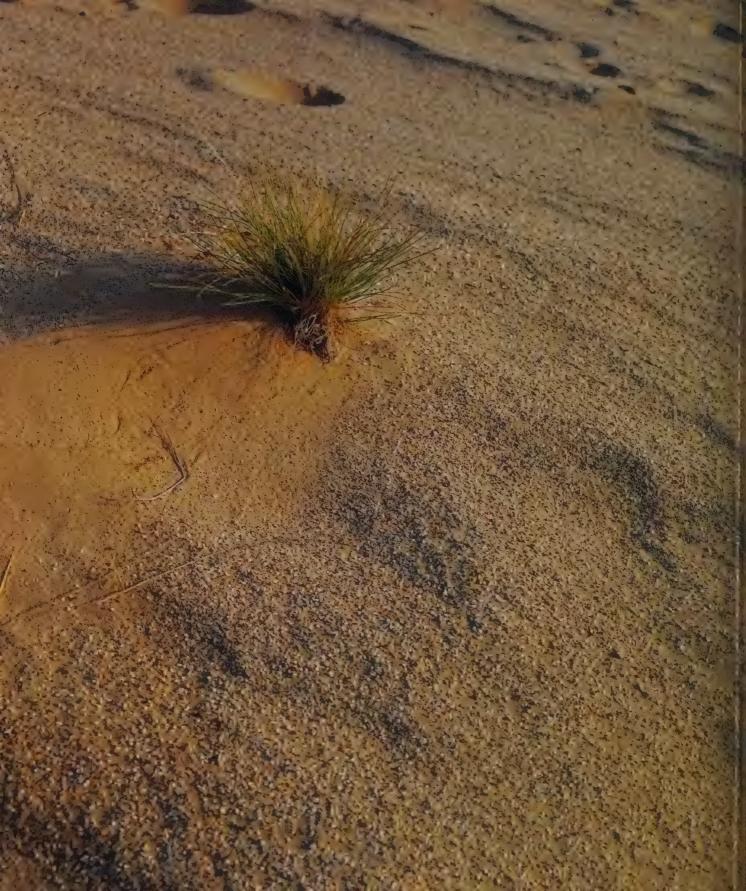
The most valuable part of Bugac is the ancient Juniper Grove. If viewed from above, one can enjoy the sight of a rather peculiar landscape. When this self-sufficient shrub, the juniper, is in such harmony with the dune world and such abundance, it creates the image of an alien land. It actually radiates the immortality of evergreens, as if time had stopped in this region and each and every juniper bush





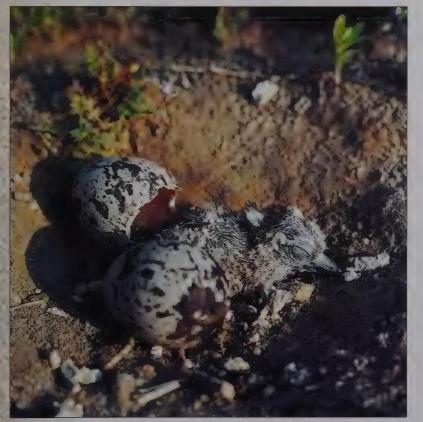
Either climbing to the top of the dunes, with heavy steps sinking in the sand, or descending into the hollows, we will find juniper bushes in many different shapes and of varying ages. The ones resembling huge columns or the specimen with an estimated age of 150 years can all be found here. Patches of juniper bushes alternate with areas of sand. In some places we can see spots of cladonia and moss, the vegetation which originally worked to bind the sand. On the sides of the dunes which are sheltered from the wind, poplars advance higher and higher. Meanwhile, the juniper, which needs plenty of light, slowly and laboriously conquers the wind-attacked sand surfaces. The blue fruit of the juniper is also used as an aromatic material. It is enough to mention that gin is made from it. Besides its fruit, the young, fresh branches have been popular for their alleged diuretic and diaphoretic effect.







The wind, having the desolate sand surface at its mercy, shapes it at its own pleasure. From the finest sand granules, it builds what we call wind-flags in the side of the rare, grass bundles sheltered from the wind.

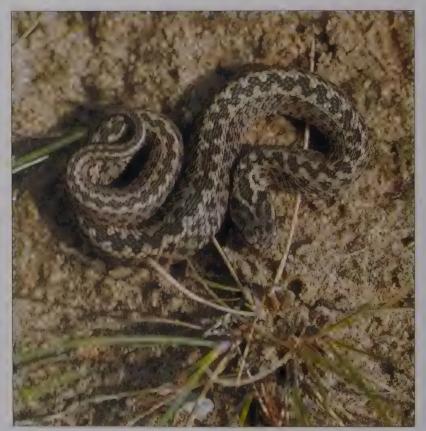


Many think this sand world is lifeless, however not only plants, but also animals have adapted to it. Here nests the "snakeeyed" stone-curlew. More precisely, it builds a nest, which would be conspicuous, except that the bird places its eggs into a small hollow in the ground or sand. Its nestlings, as soon as their feathers dry, scatter in all directions and, with their colours blending with the environment, disappear in frout of our eyes.

The European rabbit only lives in the areas of looser sand, where it can easily make its underground galleries. Slanting entrances, from several directions, lead to its warren which is usually at the foot of a bush. It only dares to venture out to eat at twilight, and when it senses danger, it returns to its hole running in zig-zags.



The rare and strictly protected orsinis viper lives in underground holes dug by a mouse or a lizard and likes to sunbathe in dry, sandy spots. It senses the approaching man or animal from quite a distance, and as it is a shy animal by nature, it flees in time, if it can. The orsinis viper is a poisonous smake and its bite can be dangerous, but it is perceived to be much more dangerous than it actually is. (Due to its rarity and timidity. accidents are infrequent.)



No insect, locust or butterfly can escape the attention of the sand lizard, which basks in the sun all day long on the bank of a ditch or in a meadow. It is always on the lookout for them... But having vipers as neighbours is a dangerous way of living for the sand lizard itself. Vipers not only occupy the lizard's galleries, but they also catch and eat young and full-grown lizards alike.

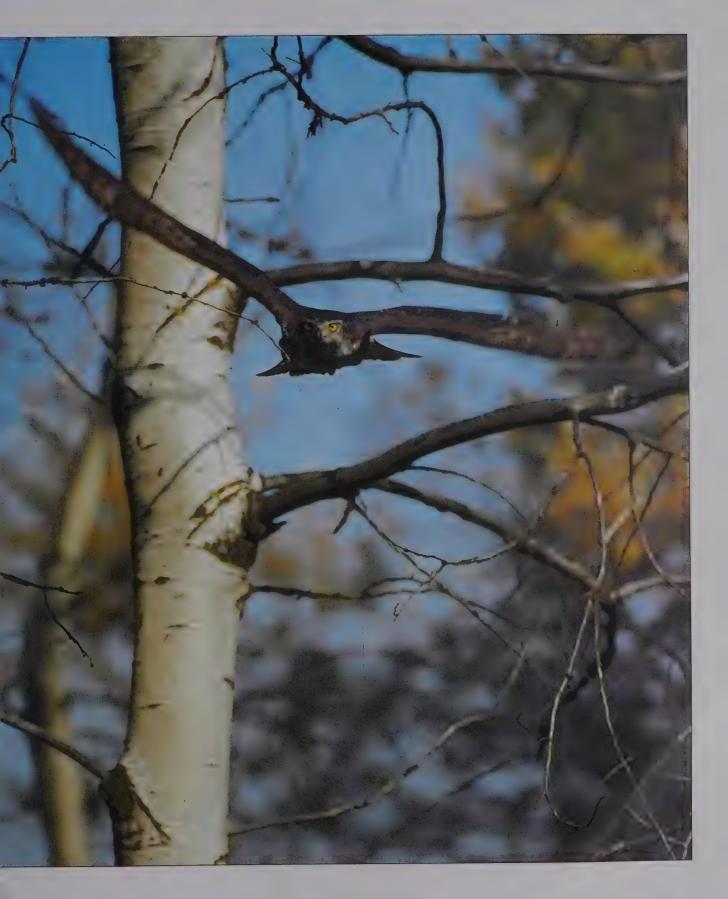


The roller, which, due to its bright blue colour, is popularly called the blue daw, is one of the most decorative members of our bird world here in Hungary. It is in late spring when the roller returns from migration. The most beautiful rollers, in the greatest number, live here, in the Kiskunság. They usually occupy the previous year's nest of the laughing bird and then stick to it for years afterwards.





The Nagyerdő (Large Forest) of Bugac, provides shelter to many species of animals, including predatory birds which have become scarce in the past decades. The goshawk is not choosy. It is equally satisfied with the taller trees of planted woods, but as a precaution, it rarely builds its nest lower than 10 to 15 meters from the ground.







Between Fülöpszállás and Szabadszállás, in the hollows in the alkali soil surface, we find five naturally developed lakes. Quite often, in times of low precipitation, the surface of these lakes shrink or even dry out completely. Their banks then become thickly covered with natural salts, which women, as late as the turn of the century, gathered and sold as an abrasive in the market.



In a small, room-size clearing amongst the reeds, a Blacknecked Grebe is sitting on its nest. If disturbed, it quickly covers the eggs with rotting plants, then abandons its nest which is left floating on the water. It ducks under the water and emerges only after it has covered a long distance... It is thought, that by covering the eggs with rotting plants, the grebe does not merely camouflage the eggs, but it also uses the heat of the decomposing plants to hatch them.

The blindingly white, alkali mounds, those which are the first to dry out, are often covered by a sea of white flowers, the dittander. With its fleshy leaves, it tries to preserve moisture as long as possible by resisting evaporation. It cannot afford to lose the water which was so hard to get and which is vital for survival.







The graceful avocet, with its black and white feathers and slightly upturned bill, is one of our most lovable birds. It seems to have chosen its feathering to match this greyish-whitish, alkali environment... Another example of its adaptability is the nest it builds for its eggs which themselves are terrain-coloured. When they notice anyone approaching their nest, they fly up and, with their typical wailing, try to drive away the intruder.







One of the most beautiful representatives from among the family of graceful terns, is the common tern. When nesting, it often favours the company of the silent avocets. Then one day the bird on the nest becomes particularly excited... Then, all of a sudden, it produces a tiny piece of eggshell; the first youngster has hatched out! This tiny ball of feathers acts exactly like the others, which nest on the ground: as soon as its feathers dry, off it goes...

One of the rarest birds of our alkali lakes, the black-winged stilt, has extraordinarily long legs compared to its body, favours plains flooded by shallow water or alkali puddles, where it can find not only food, but a suitable place to nest.

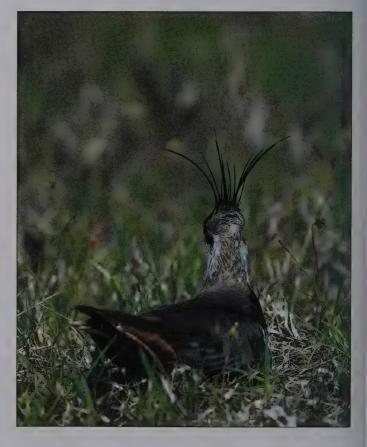


The sharp hubbub of the black-headed gulls resounds in the area as early as late March. Their nests occupy each and every inch of the islands. It is almost a miracle, the way they are able to find their own nests in the turmoil.

A *choo-choo* sound blends into the spring bird concert of the alkali lakes. This is the redshank! It hides its nest among higher plants on the small, grass-covered island, a bit farther away from the others.

If the weather is fine, the small lapwings, with a crest on their heads, select their mates in mid-March and begin courting. In the air, they flit about, chasing each other and shouting their names to the world.









The black-headed gull traditionally breeds in the Mediterranean. It was first noticed nesting in Hungary in 1940, then in 1950 in Rétszilas. On the Korom-(soot)island of Fehértő (White lake) near Szeged, one or two pairs of Mediterranean gulls have been nesting among the thousands of black-headed gulls since 1953. Here in the Kiskunság, since 1960, one or two pairs have often returned, although not each year.







Fifteen species of orchid grow in the Kiskunság National Park, and nine of the fifteen can be found at Lake Kolon at Izsák. The ophryses, which belong to the orchid family, excel amongst the other orchids, with their peculiar insect imitating blooms. In order to be pollinated, they entice insects with not only the shape and colour of their blooms, but also with their scent. The early spider orchid and the horned orchid.



The European pond turtle still lives in great numbers in the undisturbed marshes and can also be found near artificial canals. It always looks for areas with sandy shores, where it can lay its eggs into self-made holes, entrusting the hatching to the warmth of the sun.



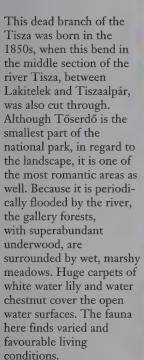




Beside their blooms, the orchises are also characterized by their twin, underground tubers. The plant gets its nutriment from what we call the mother-tuber, while the daughter-tuber stores nutriment for next year's plant. Popular therapy attributes increased potency to orchises, because of the shape of the twin tubers. Their scientific name is also derived from this, since orchis means testicle in Greek.

The willow-bushy reeds hide the herons' nesting place. Here, one can find all the species of herons nesting in Hungary. The tiny-bodied night herons give each other small twigs during the ceremony of courting and mateselection, and these are later used as nest-building material.







The nightingale, our most beautifully voiced, singing bird, builds its nest in the seclusion of the thick undergrowth. In the broiling heat, it often refreshes its young with drops of water to drink.



Higher up, at bush level, the red-backed shrike raises its young. It impales its food on the thorns of the neighbouring bushes. By doing this, it turns the bushes into a real insect collection. Sometimes, even reptiles hang in these casual larders.





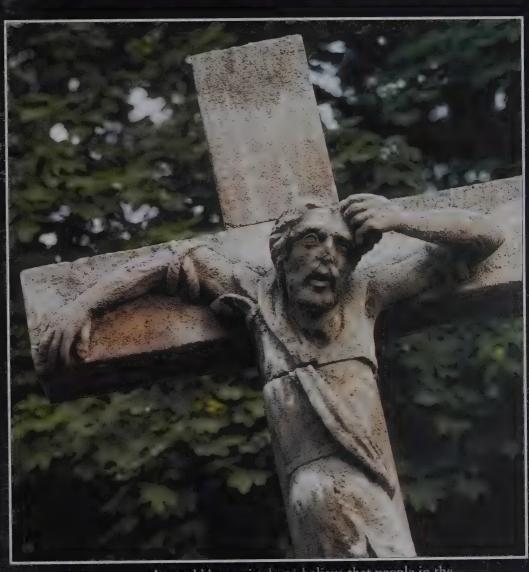


Around the key areas of the Kiskunság National Park, we can also find typical farmstead settlements. The reason for the spread of farmstead-style agriculture, which dates back centuries, throughout the Kiskunság, was the necessity of meeting market demands during the grain boom in the middle of the last century. Nonetheless, self-sufficiency remained the primary aim of living and working on farmsteads. The fodder for work animals and small livestock was provided by nearby pastures and uncultivated land...



The farmsteads and their immediate vicinity provide favourable conditions for a number of wild birds as well. The golden orioles, with their melodious flutings, create the indispensably pleasant atmosphere. They build their nest on a high branch of the huge walnut-tree (above). In the yard, hidden by corn sheaves piled up like a cone, the hoopoe has found itself a nesting place.

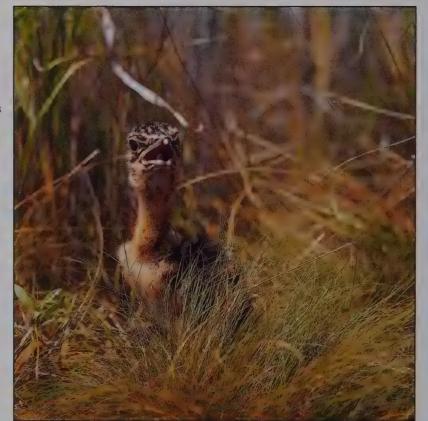




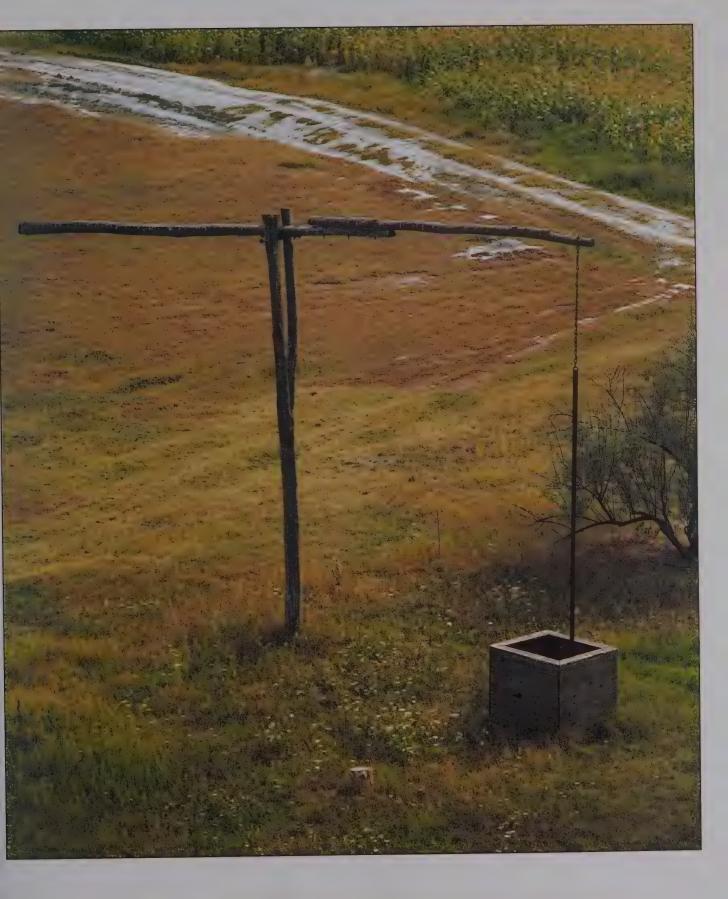
It would be a mistake to believe that people in the farmsteads have an easy life. The developing settlements have "robbed them" of their children, and the elderly, left alone in their plight, and with worn-out will and strength, come to grips with not only the elements, but with the increasingly heavier burden of their own fate. And slowly, gradually, they are giving up the struggle...

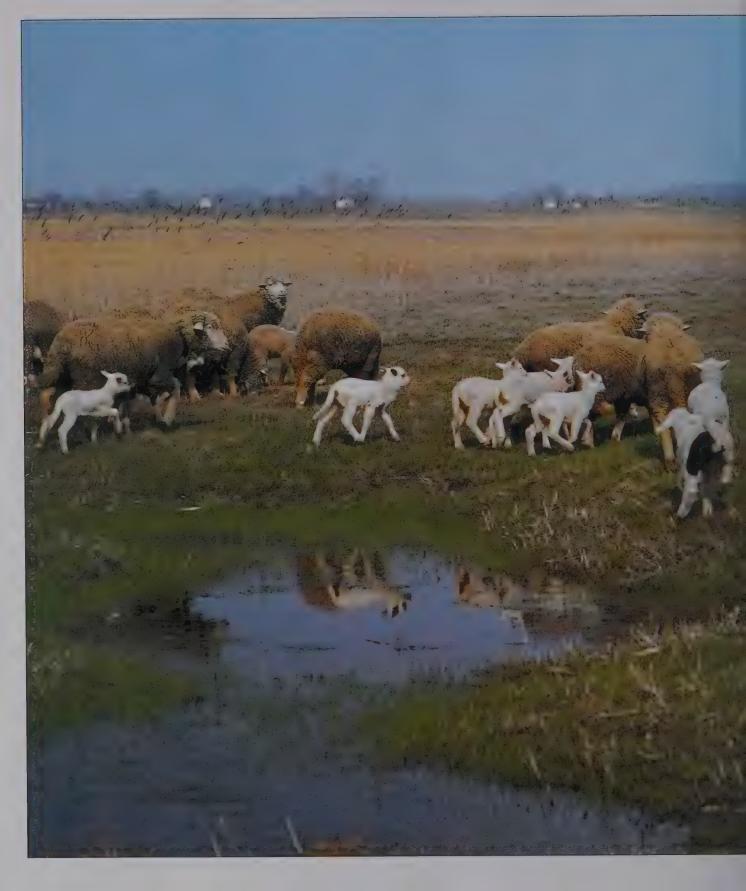


One of the primary tasks of Hungarian nature conservation, is to protect and sustain Europe's largest stock of great bustards. In Hungary the largest populations of great bustards live in Békés county, but they can also be found in the pusztas, stretching from Bugyi to Kalocsa. In Apajpuszta there is a population of 250 great bustards. The great bustard prefers to nest in large agricultural fields, often outside the protected areas. Harvesting and other kinds of agricultural work often endanger its hatching, and the successful raising of its young.



A lonely sweep pole well stands deep in the puszta... Perhaps it is its simplicity, its structure operating on the principle of the lifter, which make it not only useful, but symbolic as well... In this region, the sweep pole well is the best known method for getting water. It is found in the vards of the houses and also at the end of the village as the communal well. Out there in the puszta, it gives water to the wanderer, to quench his thirst and to provide guidance to the souls...

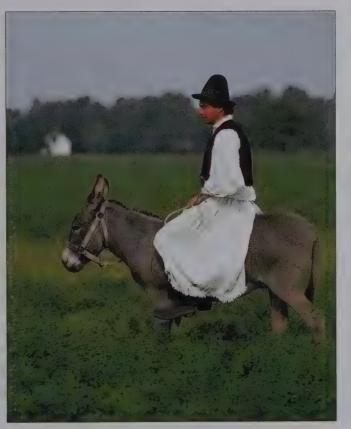




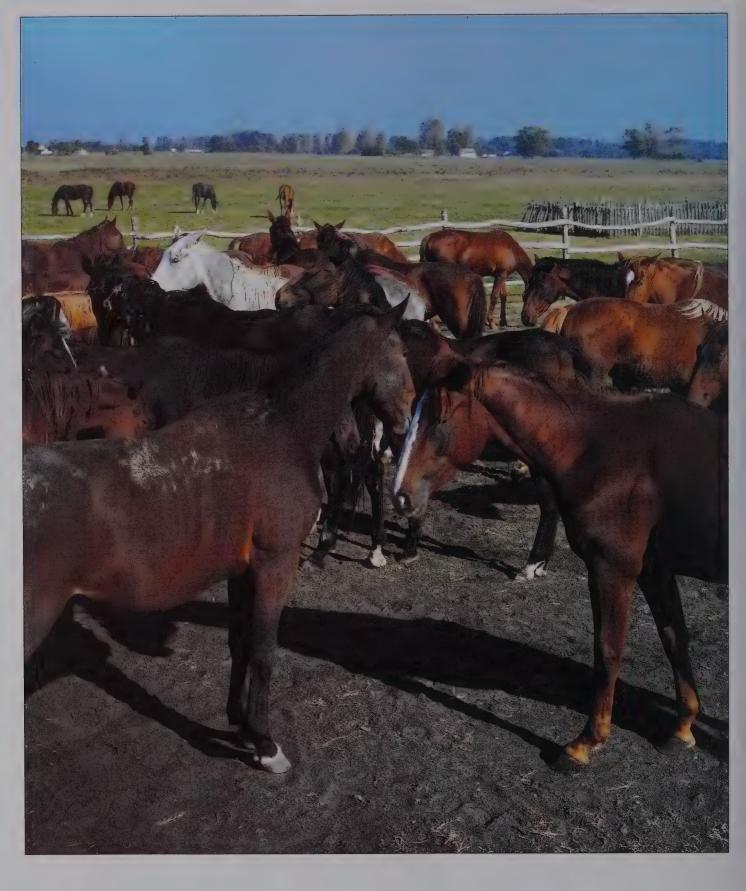




In historic ages, various forms of animal keeping have developed in Hungary. One of the most ancient of these was what we call wild keeping, when animals were kept outdoors virtually all the year round and it was only in the winter, that they were housed in the shelter of half-covered buildings, or pens. If the animals were kept indoors during the winter, they were usually driven out on the Saint George's day...



When tempestuous weather occurred during the year, animals were kept under lean-to roofs and sheltered from the wind, while herdsmen themselves took refuge in the easily prepared shelters. One of these was known as the 'shack with a knot'. This kind of shack design has been present in Hungarian architecture for centuries and research, supported by material and linguistic evidence, shows that it dates back to the Finno-Ugrian era. There was always a wheelbarrow standing near the shelter of the wandering herdsmen. They used it to bring their food, and the basic materials needed for cooking, from the village. And they stored these things in the wheel-barrow, while the shepherd, together with his donkey and dog, his true companions, accompanied the grazing cattle.





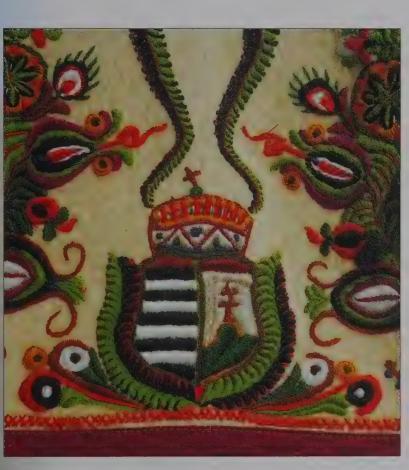
Therefore, herdsmen naturally ranked horseherds highest. Not only because of their service with the stud, but also because horses were the fastest way of forwarding the more important pieces of news.

The animals held in the highest esteem by Hungarians in the historic past, were horses. Grey Hungarian Cattle were primarily used as draught animals, but their excellent meat meant they were in high demand all over Europe. When the draught ox was ousted from farmstead farming, horses regained importance. They became a decisive factor in the life of the farmer of the Kiskunság. The villages and towns which were a long way from the world of farmsteads, could be most quickly reached by horse and cart, and this was also the vehicle used to carry their goods to the fairs.



Horse-herdsmen "grew together" with their own horses just like the shepherd was understood by his own dog. And not the least out of bravado and for a smile from a pretty girl, they did daring things. The wandering highwaymen especially needed expertise with horse herds and with their trained horses.





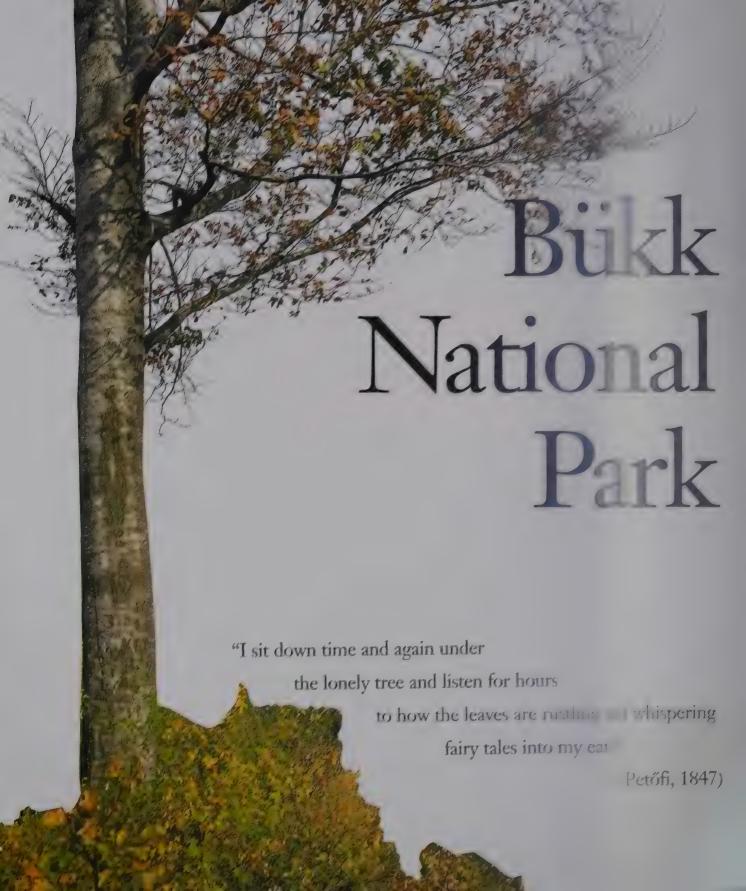
The long, embroidered, felt cloak, the szűr, was the nicest piece of their outfit. It was made of white or black milled, woollen cloth, embroidered with coloured woollen or silken thread or decorated with applied felt ornaments. The tailors who made these garments called the embroidery flowering, because flowers were the most frequently used elements of the decoration.

The corral was another typical shelter for herdsmen in the puszta. When necessary, it could easily be transported in panels from one place to another and then it could be put together again. Horses were tied up in a part of the corral which was sheltered from three sides, while in another corner, covered only by a plank, herdsmen kept their most important goods and their clothing.



Lavely sprying, Plains, at least I have poor Here myorindle ris ties, have I was been. Here this dramid should ineed successful fee. They the smaller saving praye should brown. (Pernite 1881)





I wonder, son, what you would think of, if, under the spell of the sight of the red fire cauldron of the lime-kiln, you hear the word, Bükk?

I know, that in your mind's eye there may appear the century old tree, Methusalem, near the Háromkő, with all the evidence of by-gone storms and forthcoming springs. But the word may also recall to you the family of grey, wooden organ pipes, there in the vast, romantic, trackless forest of the Bükk. Or perhaps your boyish imagination opens your embracing arms much wider and you see the mountain itself in its entirety, with its valleys and people, natural resources and history. As a father, I hope this latter will happen.

And what does the "stone" mean to you? Does it merely mean the many thousand year old flint implement of our ancestors from the Suba-Hole, fitting closely into your palm? Or perhaps you are searching for the small, remaining peak, the outlines of Bélkő, emerging from the rippling quilt of haze at dawn? Or perhaps you are thinking of the stone which you caressed with your chubby, child's hand, and which, together with its lime-cemented companions in the castle walls, used to protect the people of Eger, the home and the motherland?

Who takes, even only once, the pain to get to know more closely, the various, romantic parts of the Bükk mountains, the highest dolomitic mountains in Hungary – where one can watch the rare and rich fauna, can visit some of the hundreds of small or large caves, and rock-niches, which are blessed with unique zoological value and cultural significance? The few who do, will not be surprised at all, that after the Hortobágy and the Little Cumania, Hungary's third national park was set up here.

But those who do climb to the top from the ravine valleys, accompanied by the cries of ravens, or those who want to take pleasure in the surrounding landscape from the top of the stones, well, are they aware that – according to our knowledge – the history of the Bükk dates back nearly 300 million years. At that time, this region sank, and was flooded by the advancing sea. No matter how unlikely that theory may sound, the accumulated marine deposits we have come across throughout the Bükk, do seem to prove it right. It is especially in the foliated lime, surfacing at the sea walls along the road, that interesting fossils from this age can be found: in one place it is a fragment of the stem of a sea lily, while in another place the rock has preserved the imprint of a Brachiopod. Near Nagy-



visnyó, in what used to be the Mihalovits stone mine, we can study the black lime. Lime and black? One explanation for this unusual colour is that this area may have been host to a shallow bay. If this became blocked off from the main body of the sea, the resultant drop in the oxygen content of the water, due to the lack of fresh water supply in the sea-turned-lake, would have led the organic matter to begin to rot. The natural bitumen, created by this process, could easily have mixed with the caustic sludge and painted the lime black.

Then in the Trias and Cretaceous ages of geohistory (225 to 180 and 35 to 60 million years ago, respectively) the crustal movements renewed – submarine, volcanic activities were taking place. At the end of the geohistorical Middle Ages, the marine deposits, as a result of the activity of orogenic forces, were driven upwards. The mountain gained its final shape.

Wandering around the hummocky landscapes of the Bükkalja, we come across the various outcrops of rhyolit tuff. These were formed some 20 to 30 million years ago, when, following a longer dormancy period, the earth's crust opened up again. Here, it was not the magma, but rhyolit tuff dust, that came to the surface. Then the siliceous, thermal springs, which appeared as a result of the post-volcanic activity, cemented part of this rhyolit tuff dust into a much harder rock. But the face of the region is always changing. Over the millions of years, rain, wind and frost have eroded the ramaining rhyolit dust and only the more cohesive rocks were able to resist the erosion and remain in their places as "rhyolit dolls". As with natural phenomena in general, these peculiar stone statutes also fired the imagination of the people of the Bükk and they attributed either a popular saga or an appropriate name to these dolls (for example the Stone Woman near Egerszalók).

But most of the tuff outcrops, just because of the solvent, surface-shaping activity of precipitation, have a more or less cone-like shape. If we get to see the tuff cones of the Bükkalja, we can discover peculiar, window-like, artificial – that is, manmade – niches in them. Researchers have been trying to discover the secret of these niches for more than a century, but we still do not know who made these niches, or when, or what for.



Initially they were believed to be used for ritual purposes, to serve as urn niches, and the completely unusual form of cremation burial was attributed to a Celtic ethnic group. Later they were thought to be sacrificial or idol-holding niches. Even the excavations performed around some of the stones have been unable to solve the mystery – the earthenware findings only revealed that they could have been in use between the 11th and 15th centuries. Finally the assumption that these niches had been used for bee-keeping, became widely accepted.

The rhyolit tuff field made it possible for the people living in Eger, and in the vicinity, to make tunnels and cellars in the easily workable material. Near Noszvaj and Szomolya, in Cserépfalu and Cserépváralja, authentic, underground homes, consisting of several rooms, have been dug into the rock. Research seems to prove that these homes were far from being only temporary lodgings. But because of their narrow door and window openings, they proved to be rather unhealthy, therefore brick houses were later built in front of the cavehomes. But the one-time caves are still in use – in some places they serve as summer kitchens or crop warehouses.

Man not only used the caves dug into the rhyolit tuff for homes or stables. Natural caves were also used for similar purposes. The estate, for example, used one of the most famous caves as a stable. That is exactly how it got its name: Stone Stable – Stable Stone – Istállóskő.

Man's presence in the Bükk dates back to very early times. A boost to the Hungarian research on prehistoric man, was provided by the stone instruments found in Miskolc in 1891. The

findings were presented to the public by Ottó Herman. The test-excavations and the following planned ones, initiated by Ottó Herman, revealed rich findings: cave bear bones from the Ice Age, bison and mammoth bones, as well as instruments made of stone and bone.

During the excavation of the Suba Hole and the Balla cave, the first evidence was found of the presence of prehistoric man on the territory of present-day Hungary. In the Istállóskő Cave for example, the remains of a fireplace, used by prehistoric man, was found. The piece of rock, weighing almost 8 tons, including this latter finding, was removed from its original place in 1947. It is now on display in the permanent exhibition of the national Museum.

The presence of man, and mostly his activity in the past one thousand years, is strongly reflected in the face of the region. The castles are the most remarkable. Most of the Middle Age castles of the Bükk did not play an important role in the history of the region or of the country. Their walls are long overgrown with weeds. Only Diósgyőr and Eger could avoid the final decay. But these are all the more famous!

The theory is, that the castle of Diósgyőr was built on the site of a fortress destroyed during the Mongol invasion. The golden age of Diósgyőr occurred during the second part of the reign of Louis the Great, when he was crowned as the king of Poland, that is, from 1370 onwards. At that time, the practical value of the castle increased, since it was halfway between Buda and Krakow. The king visited it often, and spent quite a lot of time here – there were orchards and a game park around the castle. The nearby monastery of Szentlélek was also a popular place for excursions. On the hill-top rising over the Eger-brook, king Saint Steven founded an episcopacy. The castle protected the episcopacy, and the town was built later. But none survived the Mongol invasion. Then, urged by King Béla IV, the fortress was built on the hill-top. When the Turks were poised to besiege the castle in 1552, hardly more than 2000 people were preparing to defend it within the walls.

People's everyday activities, with practically no exception, were connected to the forest. They knew the forest's millions of secrets and they respected its unwritten rules with almost superstitious fear. Woodcutters, for example, never finished work until the tree they were working on, was felled. They believed that the tree may revenge the wound, and strike one of them dead by falling down accidentally the next day. In order to participate in the hard work and receive the modest remuneration, the woodcutters set off to the forest in the early dawn, whilst it was still dark, carrying a hurricane lamp, and by the time they returned home, the stars were already up in the sky. So that they did not have to share their wages with any-



one, many were forced to take their under-age sons with them, as helpers in their dangerous work in the forest. But despite the greatest precautions, I wonder how many tragedies the tree Methuselahs of the forests of the Bükk could recall? How many cries of pain did the rock walls of the ravine valleys echo?

Meanwhile others went to the forest to pick mushrooms and medicinal herbs. They picked its fruits. They wove baskets from its wickers. They made handles, as well as pieces of furniture for their modest homes and shingles to cover their roofs. And they were familiar with the movements and behaviour of game and birds. They closely watched the flight of the wild bees to find their honey. They preserved their understanding, then in the most matter-of-fact way, passed down the expertise and experiences of the elderly. The knowledge of the trades of the forest was handed down from father to son.

In our mechanized age this is the past already – most of those trades have been swallowed by the well of time.

In the valleys of the Bükk, iron foundries used to operate. It is typical, that one of the old names of the most famous place of excursion, the Szalajka-valley, used to be Hámorvölgy (Foundry valley). But its present name also originates from an old occupation. One of the basic materials for the glass works, pearl-ash (potassium carbonate) was produced right here: by lixiviating the ash of the breech tree. Pearl ash, and salt, were both known as Sal alcali, in Latin, and the name Szalajka is said to have been derived from this.

The memories of the glass works – huta in Hungarian – operating here in the 18th and 19th centuries, are only kept alive by the names of settlements: Répáshuta, Üveghuta, Hutabérc, Hutarét. It is a miracle that the traditional trades of lime- and charcoal-burning still exist.

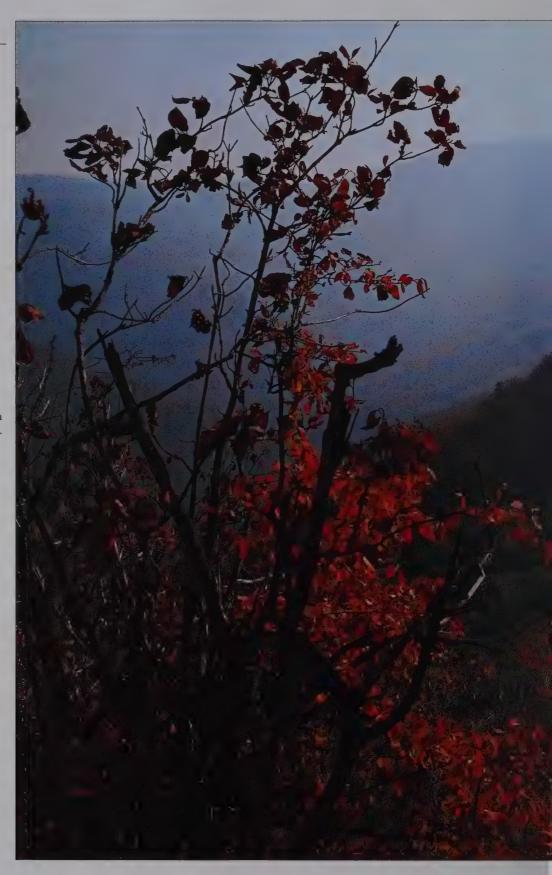
People lived off the wood—and they lived for the wood. To the people of the Bükk, nearly every minute of their lives, from the first till the last, was filled by the forest. It gave them polished wood to make the cradle and planed board to make the coffin. Why would these people stand at the foot of the high rising rock wall of the "Imó-kő"—named "Ima-kő" (Prayer's stone) in the old, yellowed maps—which the popular legend regarded as a one time pagan sacrificial place? And with what saintly devotion would they have waited for the Ima, or Imó, spring to break out of its rock prison? The oral tradition holds that the water was preceded by a peculiar and mysterious murmur, emanating from the then dry cleft. Locals still say, in a way that conveys a lot: "The Imó is coming!"

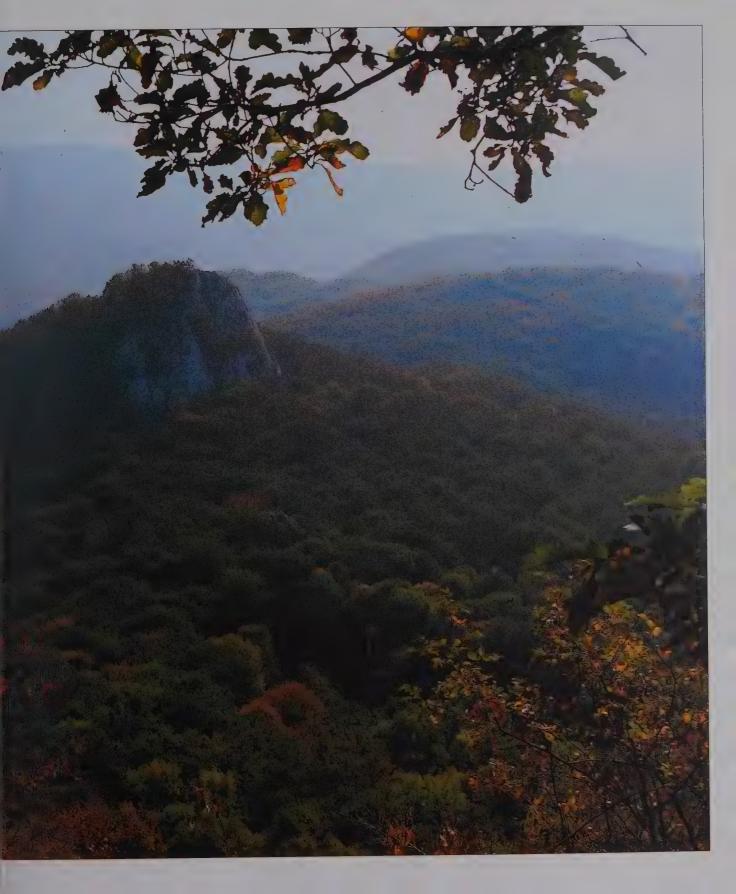
What a wonderful director nature is! Above us, the central part of the Bükk-plateau - this huge field slashed by sweeping meadows, juniper groves, dolinas, like tiny craters - is enclosed by the mountain's special formations, the daringly, high rising stones. True, stone mining has completely ruined the huge mass of rock of Bélkő, but the others, the famous Örkő, Peskő, Tarkő, Háromkő and their Northern companions, the Odvaskő, Buzgókő, Magoskő and Látókövek, truly and imperturbably guard the romantic landscape of the Bükk: the ravine valley of plant remains from the Ice Age, the free, blue sky of the speedy falcon, the clean, cold, thirst-quenching water of karst springs, the straight trunk of beech trees and the peaceful night of those who

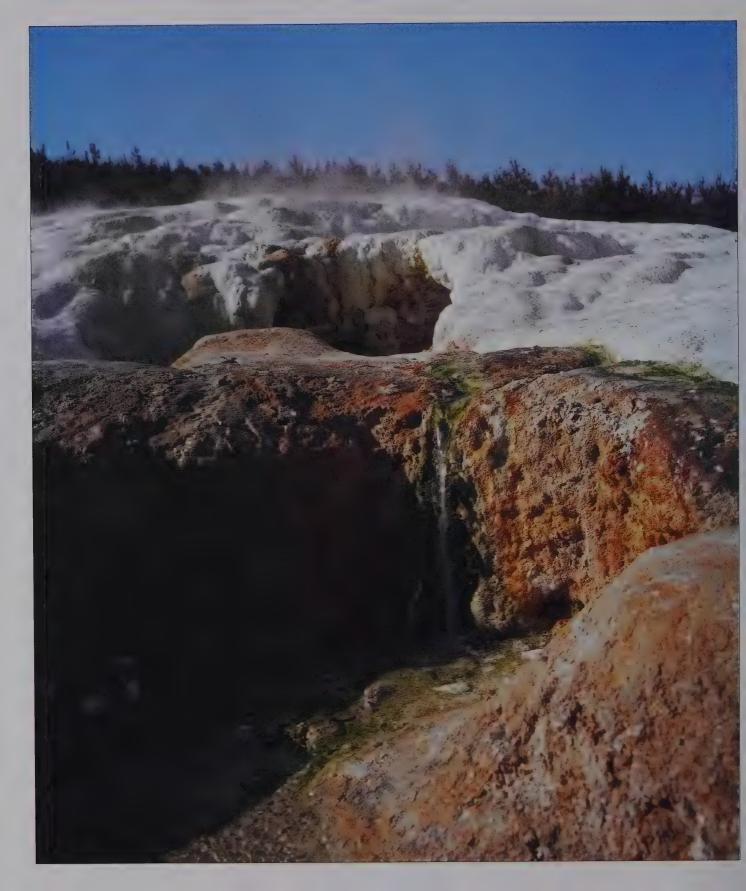
guard the fires of the

lime burning kilns.

At the tops of the hillsides, covered with the green of romantic forests, are the decorative, geological sights of the Bükk mountain; the bare limestone bulges, which we call stones. The castle on the cliff of the Nagy-Várhegy of Dédes, guarding the road in the Bán-valley, was built after the Mongol invasion. Its final decay started when the Bashaw Hassan of Temesvár besieged it in 1567. The defenders of the castle fled desperately, and one of their final acts was to blow up the fortress and its tower, onto the thronging mass of invading Turks. From the ruined walls there is a good view of the Kiscastle, which got its name from its fortress-like cliff.









It is mainly from the quarries that we find out about the forces that shaped mountain ranges. Their rising, vertical walls show us how rock developed in various ages. By preserving the fossilized animals, the rock allows us to discover some of the wild life of that era, and show us its age. Perhaps the most famous, and as far as geology is concerned the most expressive, stone mine of the Bükk mountain is the abandoned Mihalovits stone mine near Nagyvisnyó. This is where one finds deposits of the black limestone.

In the fields of Egerszalók, from an artificial well, hot water shoots to the surface like a geyser. The separate, calcic deposit, reflects a geohistorical event that took place millions of years ago...



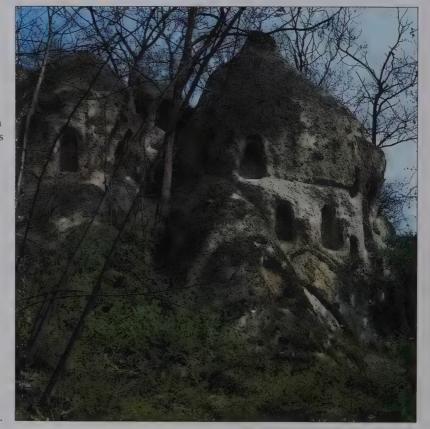
One of the most beautiful representatives of the rich, bygone, marine life, is the cephalopod (Brachiopoda). This 280-million-year-old fossilized creature, is also found in the similarly aged rocks of the Mediterranean and America.

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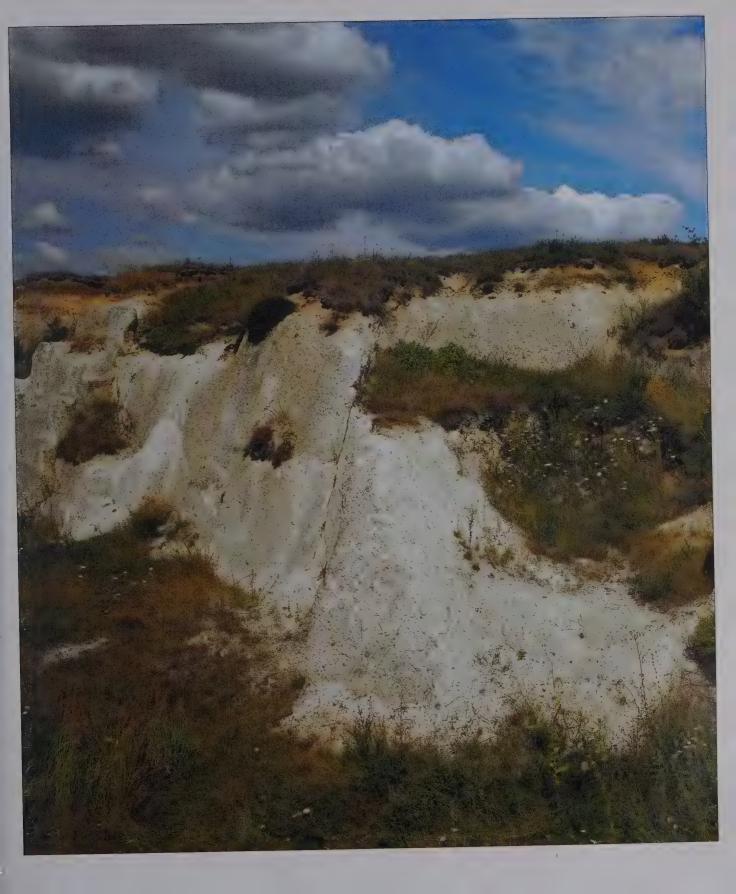
From among the occurring formations of the rhyolit tuff, the cones are the nicest. One cone, in the fields of Egerszalók, in the Maklány baulk, was dubbed by the people from the neighbourhood as the Betyár (Outlaw)-hideaway. There is a perfect hole dug into the rock, and on the three, internal, side walls of the hole, there are stone benches, large enough to serve as beds. In summer, plants grow high enough to hide the entrance, but from the inside, the valley, and even the surrounding hills, can be watched. It would have really been an ideal hiding place for outlaws on the run.



On the peculiar, mitrelike, tuff cones, there are niches with a width of between 22 and 47 centimetres and with a height alternating between 40 and 80 centimetres. It is thought, that with the use of a closing stone, most of them could have housed a bee colony. Therefore their name, the hive stone, is perfectly suitable. Interestingly though, the elderly call them windowed stones and when these niches get a concrete name they become much more connected to the world of tales, than to bee-keeping. In Noszvaj their name is Kősárkány (Stone Dragon), in Cserépfalu, Ördögtorony (Devil Tower), in Szomolya, Királyszéke (King's Chair).

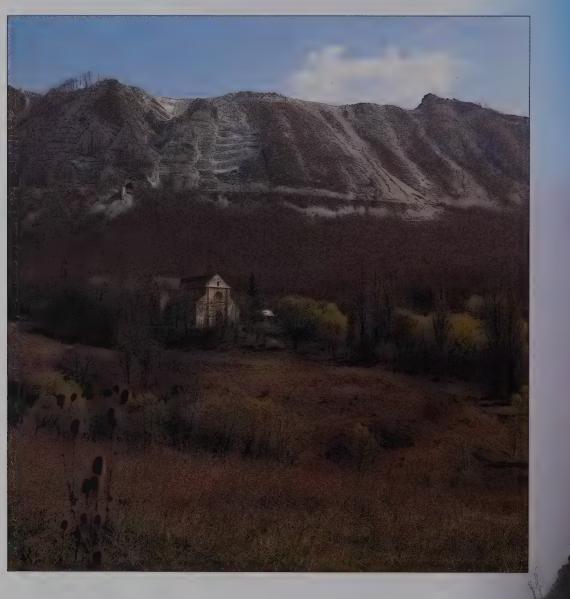


Due to its excellent characteristics, the rhyolit tuff was used in several places and in several ways. The firing areas of lime kilns were made of rhyolit tuff. For construction purposes, they "emptied" it, as the terminology of Bükkalja still has it, with pick axes. Today, mechanical stoping has completely replaced manual husking. In the mine, stones are extracted with the help of an electronic stone-cutting machine that moves on a one hundred metre long track. These stones are then cut to size. A small quantity of them are used for the insulation of oven walls in the baking industry, but the bulk of these stones are used in the construction of houses and cellars in the vicinity. In the fields of Szomolya, beside the untouched tuff outcrops, we come across the traces of the abandoned manual mine.



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The church of the Cistercian monastery, with its ornate facade under the rock mass of the Bélkő, fits harmoniously into the landscape. The monastery, which was named after Háromkő, was established by Bishop Kilit the second of Eger in 1232.

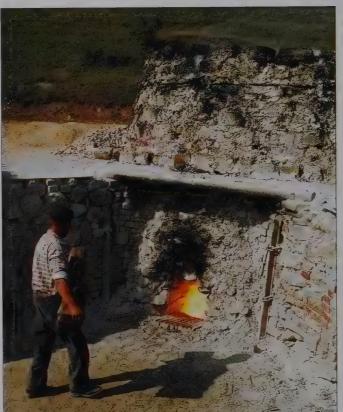








The mountain provided not only wood, but limestone as well. It was exploited through explosion and hacking, and it was used for construction and lime-burning alike. Supposedly, the skill of lime-burning was introduced by the Cistercians from France, whom King Béla the fourth settled here in 1232. At Bélapátfalva, in the Bükk mountains, one can find the oldest traces of this trade. The lime-burning kiln, or more precisely, the major part of the combustion space, is sunk into the ground. Tuff-stone covers its walls. Usually, 200 to 400 quintals of limestone is placed in the lime-burning kilns at one time. Firstly, the stones are placed in a circle around the combustion space. The bigger pieces of stone are placed closer to the centre; these are the lining



stones. The space between them and the wall of the kiln is filled with smaller stones. Then, as these lines of stones build up, the diameter of the circle becomes smaller, thus forming a cone. This operation requires the highest degree of expertise and experience, because if the stones are not arranged adequately, the cone may collapse into the firing area. The kilns are usually fired for 3 to 4 days. In order to get 1 quintal of burnt-out limestone, lime-burners need 2 quintals of raw limestone and 1.3 cubic metres of wood. Once the kiln is fired, the kiln is continuously fed with extra logs to boost the inner temperature. The limestone is initially raised to a red heat, then after reaching 900 °C, it becomes white hot and the burning out of the limestone begins.







From among the forest trades, coal-burning flourished, primarily near foundry and black smithing centres, because charcoal was vital to the production of fine, sulphur-free iron. The wood was placed in charcoal kilns, situated in man made or natural clearings. The thicker logs and trunks, were usually put in the middle. As they proceed outwards, especially in the upper line, the logs slant inwards to form a charcoal kiln in a semi-globe shape. Once it is filled, the charcoal kiln is covered with an almost five-centimetre thick layer of beech-leaf mould; either raked up at the kiln site or collected manually and carried there in baskets. This layer of beech-leaf mould is then covered with 20 to 25 centimetres of thick, loose, crumbling, forest soil. The fire in the charcoal kilnis lit through a horizontal hole. When the fire is lit, the smoke and steam escape through the



kiln's central ventilation shaft and through surrounding holes. As sparks begin to fly, the central shaft is slowly covered, followed by the other holes. The master charcoal burner knew exactly what stage the process had reached by the colour and smell of the smoke; he could practically 'see into' the kiln. Throughout the burning process, charcoal burners keep on trampling on the kiln or tamping it with a stick, in order to hinder any holes from developing under the soilblanket.

In the warmth of summer, burning usually takes 14 to 16 days.

After the burning is finished, they let the charcoal kiln stand for a day, then by gradually dismantling it, proceeding from top to bottom, they begin to cool it down. Whilst dismantling the kiln, charcoal burners begin to class, sort out and pack the charcoal.





The more varied a landscape is, as far as its terrain and flora are concerned, the richer the fauna we can expect to find there.



In the Bükk mountains we can find anything from deep ravine valleys to high rising, rocky walls. Therefore, the fastflying, saker falcon and the predatory fox, feel equally at home here.



The endangerment of birds of prey in general has also affected the saker falcon. Beside falling victim to the chemicals used in agriculture, this type of falcon used to be, unfortunately, the favourite of falconers. In like manner to many of Europe's rare birds, Hungary is the westernmost place where saker falcons nest. We know of a saker falcon nest, right here on a cliff in the Bükk mountain, from which no young had been able to fly away for fifteen years because falconers (most of them from Western Europe) pilfered the nest on a regular basis before the area was declared a national park.

The staff of the Bükk National Park launched an experiment in 1980. Based on the experiences gained during this experiment, they have organized, each year since 1984, together with members of the local Ornithological Association, the guarding of the endangered falcon nests. Starting from the laying of eggs until the young falcons fly away, volunteers take turns in weekly shifts, to guard the area day and night. In this way they hinder rock-climbers and falcon thieves from swinging to the rock-cavity, and getting close to the falcon nest.







"As rare as a white raven", says the proverb, but it applies to the black ones as well. It is only in recent years that their numbers have started to grow. The raven holding a ring in its bill, can be seen in the coat-of-arms of the Hunyadi family. Today, the names of two famous settlements include the word raven, which is bolló in Hungarian: Hollókő and Hollóháza.

Although our largest owl species, the eagle-owl, nested regularly in the Bükk in earlier times, it has never been frequent visitor. In recent times, young eagle-owls have been imported from breeding centers abroad, in an attempt to improve the stock.

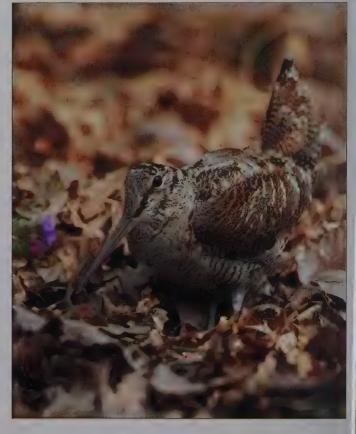


The wild cat, which has keen senses and is only active in the twilight, hides in the hollows of trees and in rock-cavities. Its prey is mainly rodents, but it also robs birds' nests.

Hazel hens live in pairs. They choose their mates in the autumn. During this time, the young cocks also try to mark off their territories, an area of 2 to 12 hectares each, and protect it from all the other cocks and alien hens. The pair live together closely during the winter, then in the spring, after mating, they begin nesting.

In young, spring-smelling forests, covered with wet and mouldy leaves, or in cutting areas, where bushes have begun to grow, we may be lucky enough to come across the woodcock. Its nest is as hard to find as that of the similarly concealed hazel hen, which also favours thickets with rich undergrowth.





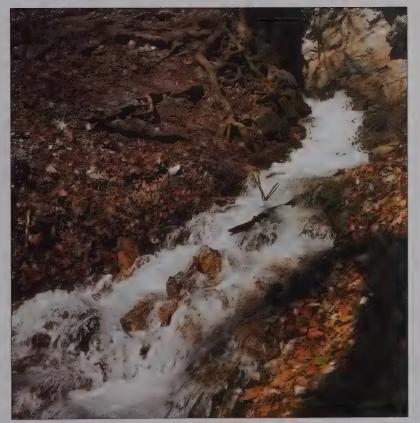




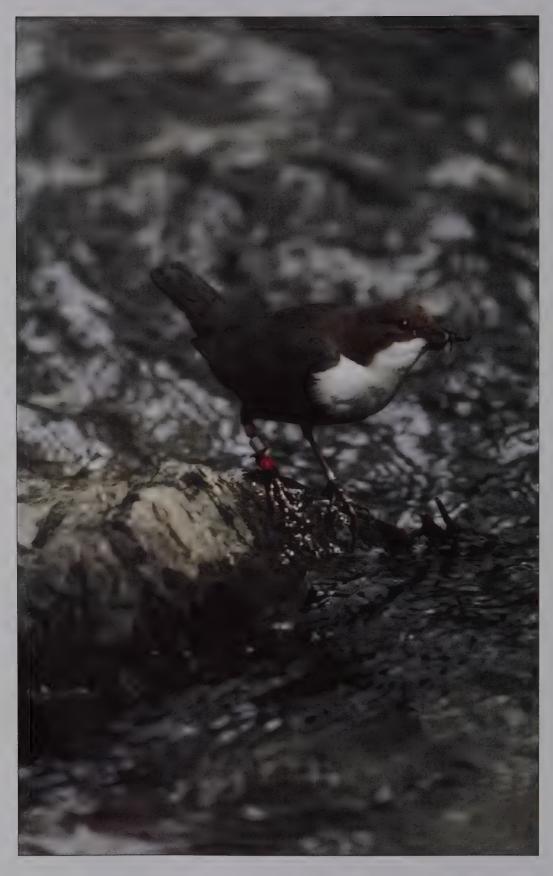


The melting of snow in the spring provides an abundant supply of water for the rushing streams of the valleys. The interesting blooms of the common Butterbur, known for its large leaves, flood the banks of the brook and they even resist the icy current.

An army of proud, straight-trunked, light grey, wooden organ pipes, line the slopes of the Bükk mountain. The beech is the dominant tree in Hungary's mountain ranges. It has a long life expectancy, 150 years on average, but certain trees can even reach the age of 300. They can grow as high as 30 to 35 metres. Typically, they close their foliage almost completely together by summer, so as not to let too much light through. In this way, rich undergrowth is unable to develop under them. The flashing edge of the axe is used primarily to strike the trees deemed to be ready for cutting, that is, 80 to 100 years old. The beech is the hardest tree in Hungary, with the highest calorific value too. This is the type of tree generally used for charcoal burning.



When the level of karst water, deep in the hollows of the mountain, suddenly rises in spring, an abundance of seasonal springs break through to the surface once again... Legends connected to the famous Imó-spring, tell of small pigs and small ducks being carried, alive, to the surface by the spring...



Passing along peaceful brook banks, we can sometimes catch sight of the dipper flying over the surface of the water or taking a rest on a stone rising from the water. It hides its nest, made of moss, in the rifts of rocky walls, along brooks, under bridges, or among roots reaching over the water.

The attractive, yellow, Teleki flower was named after Count Sámuel Teleki, the late chancellor of Transylvania, and the founder of the famous Teleki Library in Marosvásárhely. As a genuine, sub-alpine, mountain plant, its habitat extends from the southern-eastern foothills of the Alps, through the Carpathians to Asia Minor. In Hungary it only grows wild in the Bükk mountains.

The lady's slipper orchid is the most beautiful orchid in Hungary. Its popular names, "thrush's slipper" or "Mary's slipper" reflect its slippershaped, honey lips. Insects, searching for nectar, fall into its trap, thus promoting its pollination.

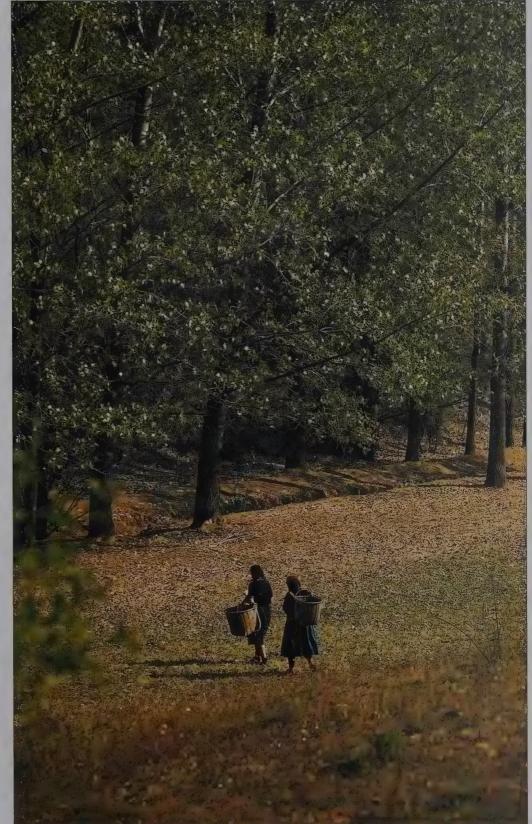


People used to have a special liking for the Purplish Hellebore, not only because it is beautiful, but also because it was used in popular medicine. The Medical Herbal by Diószegi and Fazekas (1813) reads: "...it is a good and effective laxative... especially good for lunatics and epileptics..."





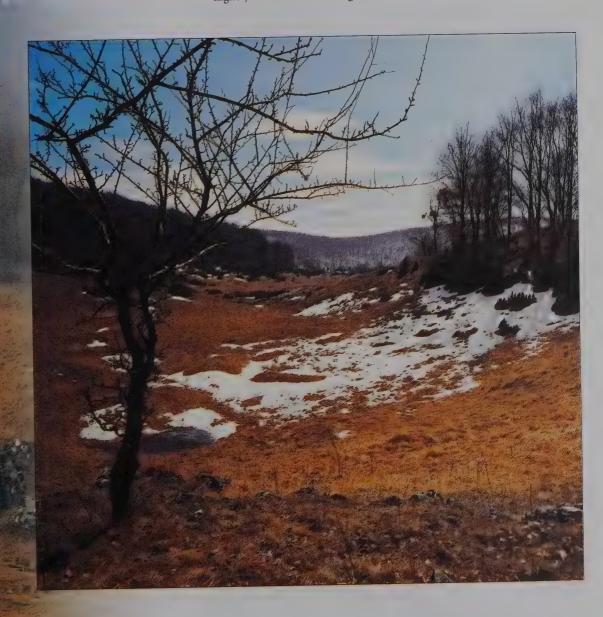


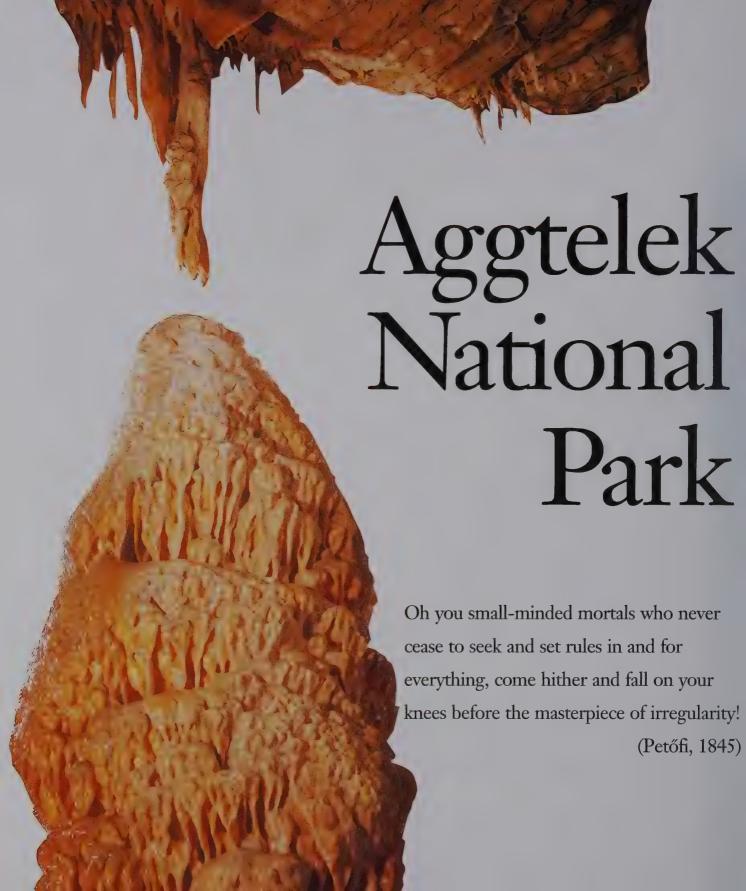


Our excursions have brought us to the central part of the Bükkplateau, the Nagy-meadow. It used to be a wooded area. However, the clearance of beech wood began in the second half of the 18th century. The lonely tree-giants and seedlings, here and there, proclaim the one-time majesty of this by-gone forest. While men worked hard with the lime-kilns or in the woods, women were kept equally busy. They ventured out in twos or threes to pick mushrooms, they conserved, by drying, the wildgrowing fruits of the woods, and they took the flowers of the woods to the market. Medical herbs provided cures for their illnesses, and the sharing of anecdotes in the evenings, eased their sorrow and pain. They spent their lives in the woods, they were the children of the woods...



In the meadows of Nagy-meadow, torn with dolinas, one finds the world famous Lipizer stud. A peculiar micro climate is typical of these tiny craters. Here, winter snow and ice-patches survive the longest, and frost can occur on star-lit nights, sometimes following the hottest days.





Even a small village can be world famous. Especially, if it can boast a stalactite cave, like Aggtelek, hiding in the heart of the bare limestone plateau, along Hungary's Northern border.

I wonder how many times the old folk-tale, still alive in the memory of the elderly, was told around the crackling of the fire. The tale goes: "Here, where Aggtelek now stands, there used to be a big town, and on the Baradla peak there used to be a beautiful castle, whose golden roof glittered far off into the distance. The king, who lived in the castle, had many warriors with whom he roamed the nearby areas, robbing and killing. The king hoarded innumerable riches in the castle and in the cave under it. Then on one of his marauding raids, far away, he seized a beautiful princess, to whom he offered all of his wealth in return for her love – but it was in vain. After much fruitless searching, the princess' fiancé learned where the princess was being kept and at the touch of his magic wand, the locks of the castle opened up and the prince with his men entered the castle. The king and his men fled to the cave, where the power of the magic wand turned him and his servants into stalactites, and, of course, the princess was freed."

We should not be surprised that the Baradla has won the hearts of the people in Aggtelek and the surrounding areas, and left its mark in the world of folk-tales. This peculiar caveworld, attractive and repulsive at the same time with its dark depths, would have been even more mysterious by the flickering light of by-gone, suet torchlights. Before the inquisitive looks of the torch-bearers, the stalactite formations would have suddenly come to life, with the permanent change of light and shadow turning them into recognizable tale-figures, while a moment later, they would have become figures from terrifying nightmares. In one place a red dragon head faced them, in another hall an octopus hangs from the ceiling...

And no matter how big a role imagination would have played in the birth of this folk tale, the man of the Ice Age knew of this cave and used it. Findings prove, that later, in the Neolithic period, some 7 thousand years ago, men built pile dwellings in the high-domed halls, in order to keep their beds as far away from the wet ground of the cave as possible.

Several findings have been excavated from the culture of the Iron Age as well. In the Bat-Hall, hidden between two rocks, archeologists uncovered a gold artefact, weighing 15 decagrammes. Some three thousand years ago, men made their tools out of bronze. Their burial place was here in the



The soot from their fires and torches has been preserved by the blackened stalactites.

The results and material remains of the excavations are on display in museums, for tourists from Hungary and abroad. But even within the limited vicinity of the national park, we can still come across settlements dating back to the Middle Ages, with their typical one-street-structure, sometimes built at the end of the valleys. However, most of the houses were built at the end of the last century or at the turn of the century. The village churches preserve the remains of the past centuries.

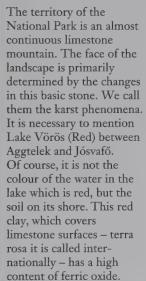
But let us return to the stalactite cave! Its name is derived from the ancient past. "Bradlo" or in plural "bradla" means cliff, but the name Baradla is supposed to have also been the name of the mountain or crag, above the ancient entrance of Aggtelek. It is probably of Slovak origin.

The oldest, written report on the cave is from 1742 by Mátyás Bél. In 1794 József Sartory's famous map helped in getting to know the place better, then, in 1797, an English traveller described the splendour of the place. An enthusiastic researcher of the cave was Imre Vass, born in Rozsnyó in 1794, who for 18 years served as the surveyor of the then Gömör-Kishont county. In 1825, making use of the drought, he succeded in crossing those parts of the cave which, when flooded with water, were hardly passable. He was the one who discovered that section of the cave which extends to Jósvafő. He published his discoveries in a book, with a beautiful map attached to it, in 1831.

The Baradla cave of Aggtelek is among the most significant caves worldwide. Its explored and mapped section is 25 kilometres long, of which, 7 kilometres, named Domica, is in the Slovak Republic. As a result of cave research after the Second World War, we are aware of the 10 kilometre long Béke (Peace)-cave, the 3 kilometre long Szabadság (Freedom)-cave in Égerszög, and in Jósvafő, the Vass Imre and Kossuth caves.

The Aggtelek National Park is first of all, the world of caves. It was not surprising that a National Park was established on a territory of 19.708 hectares on January 1, 1985. Earlier, a nature protection area safeguarded the natural assets here.









Peculiar shaped karst rocks, locally called the Medve (Bear)-rocks, encircle the Vörös-lake.

A rare plant of the wet, marsh meadows between the rivers Bodva and Rakaca, is the common snake's head. Because of its chessboard patterned bloom it is also popularly referred to as the chessboard, and, after its habitat, crown imperial.

The dog's tooth violet blooms in the cool and humid hornbeam groves and oak forests of the valleys in March. Its blooming has various stages: it completely closes its petals when the temperature is around freezing point, then it gradually opens them up and turns them fully back when it is warming up.

On the hillsides, which used to be covered with woods, the trees, use their roots to dig vertical hollows into the limestone layer, which, back then, was covered with arable soil. Following clearance of the woods, erosion carried off the arable soil layer, leaving the roots, reaching down into the limestone layer, to rot away. What we see today is the result of this process: a grooved, perforated, bare limestone surface which is very aptly known locally as the devil's ploughing. Its most beautiful example is on the side of the Tóhegy, above the lake Aggtelek. The lake also owes its existence to this alluvium washed down from the hillside. Earlier there used to be a sump of the Baradla cave here, but it became clogged and the precipitation led the natural hollow to swell into a lake.

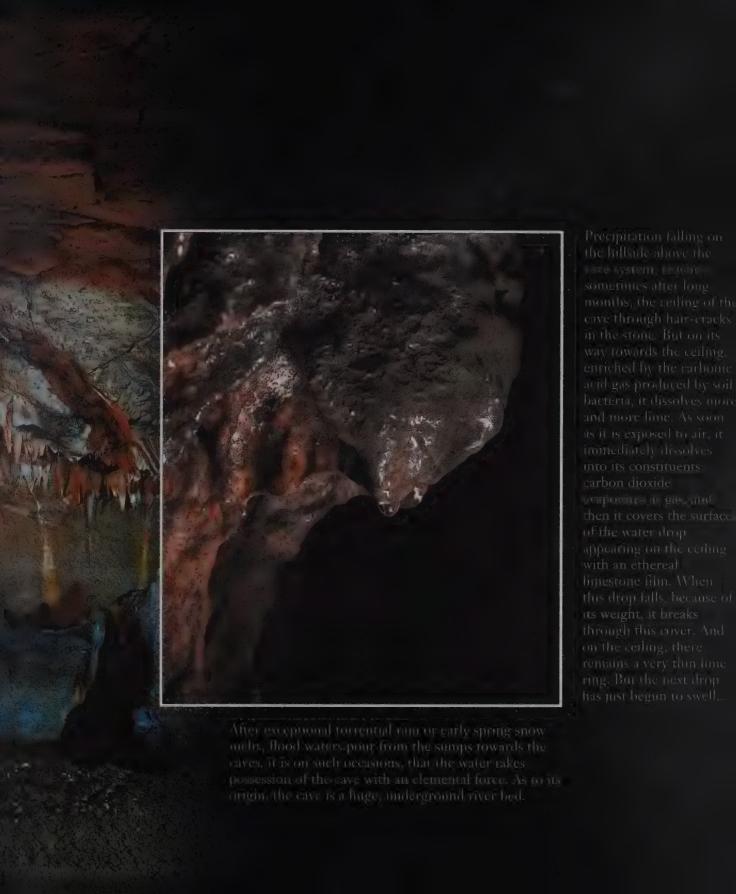










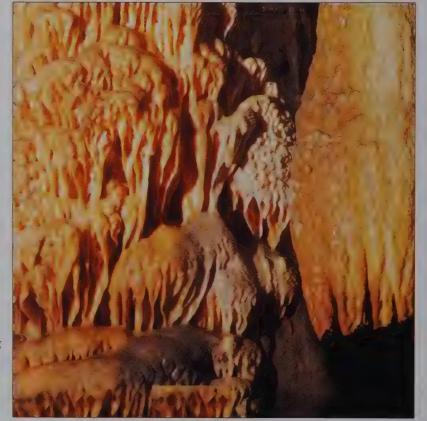


Lime rings to a thickness of a micron, pile up on one another, and through the passing of time, small lime tubes (dripstone taps) develop. When their cavernous inside becomes clogged for whatever reason, then the water saturated with dissolved lime, begins to increase the thickness of the wall. And a stalactite is formed.



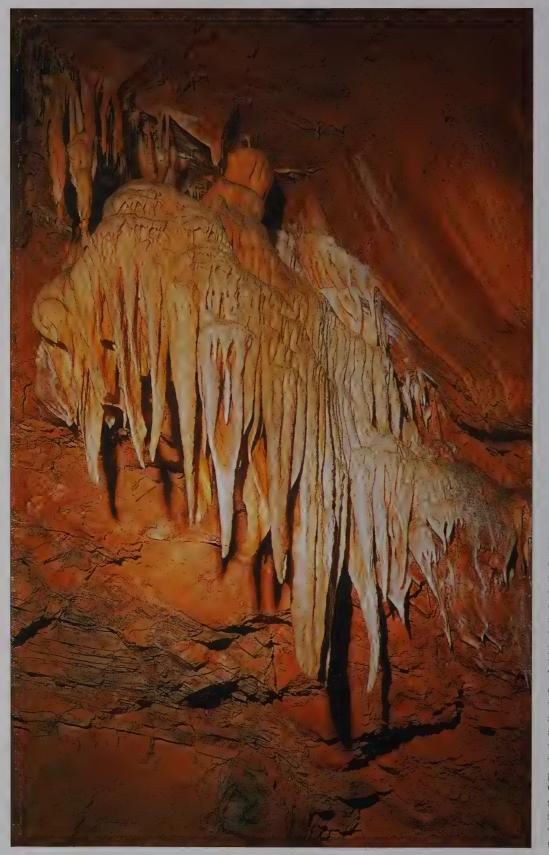
But the drop of water which falls still contains some lime, therefore, a stalagmite starts to form as well.

If this process is supported by an adequate and continuous water supply, then the moment may arrive, when the stalactite and the stalagmite meet, forming a column reaching from the floor to the ceiling. (Chinese Pagoda above, the Alabaster Statute and part of the Octopus below.)



Stalactites are rich not only in their forms, but in their colour as well. Precipitation proceeding down through cracks in the rock carries with it not only lime, but it also dissolves various mineral substances (including impurities). Stalactites are normally red, or some shade of red. (On the shore of lake Vörös (Red) we can find red clay, which has a high ferric oxide content.) But we can also discover black stalactites! Theoretically such a colour may exist, but these black stalactites are the result of soot deposits from suet and tar torches. In places where the formation of stalactites occurred more quickly, a thin dripstone layer - true, partly translucent - covered these surfaces. (A pitch dark part of the Bat-branch that was inhabited in the prehistoric age.)

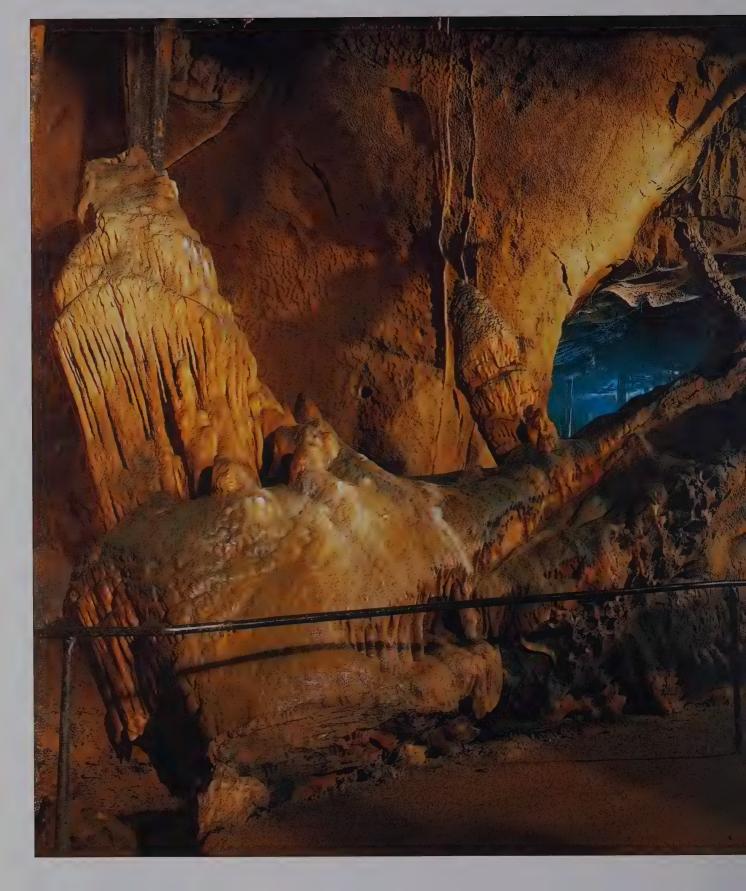


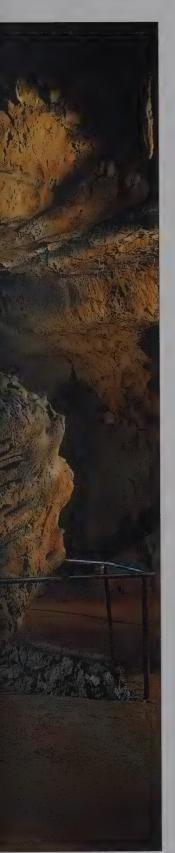


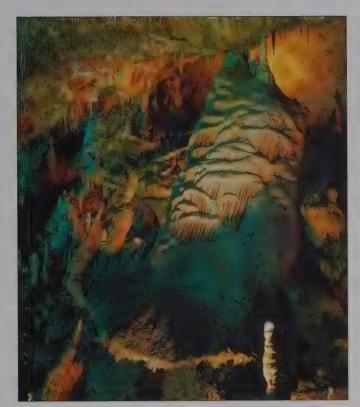
Where the water, saturated with limestone, finds a downward sloping ceiling, a dripstone coating forms. If, coming up against some obstacle, it drops down nonetheless, then firstly dripstone slats, then, a lot later, draperylike formations, will cover the wall. A variant of this is the stalactite curtain.

Researchers have found fragments of prehistoric earthenware vessels under a stalagmite, which was 170 centimetres high and 10 centimetres thick. The estimated age of the earthenware vessels was between 6 and 7 thousand years. Therefore, it follows that this stalagmite cannot be older... The stalactite columns have different growth rates, since their origin and development is affected by many factors. Their annual growth was examined in the Baradla cave and for one it was 0.14 grams, for another 2 grams. How old then is the Observatory, one of the largest stalactite formations on Earth, if it is 25 metres high and its weight is estimated to be not less than 911 tons?









Water can build, but it can also destroy. The stalactite colossus, the Engine, is thought to have been struck down by floods in the cave, then later stalagmite candles developed on this overturned stalactite pillar.



The life time of stalactites is dependent on several factors. If, for example, the ceiling of the cave holding the developing stalactite is not solid enough, in the course of time it will not be able to hold the weight and it will give way. The stalagmite can similary tilt or can even fall if the base is not firm enough. (Parts of the *Giants' Hall:* The leaning *Tower of Pisa* – above, *Dragon head* – below.)





Research and excavations carried out in the Baradla cave uncovered bone remains of cave bears. These fossils tell us that the cave system could be between one and a half and two million years old.

The Baradla cave of Aggtelek owes its existence to the water. And just as life came into being in the water, and earthly existence is not possible without it, the presence of water will also change the cave, this world of lifeless wonders... Certain stalactites will probably give way, others will fall down, and while the growth of some stalactites may stop, new stalactite formations may begin to develop in unlikely places. In the darkerthan-the-night cave world the almost lavish generosity of nature, the development of stalactites continues... but it proceeds in many different ways. What nature has created naturally and harmoniously, taking no note of the passing of time, an irresponsible human being can destroy with a single, unconsidered move. The consequences of certain illconsidered or careless human activities (sewage, industrial pollution, overdose of chemicals, etc.) entail irreparable damages to nature.





# Lake Fertő National

Park

"Its name is of Finno-Ugrian origin, it is what we call a talking name: it comes from the one time common noun meaning a lake with a low water level."

(Stagnum Fertew, around 1200)

(Filep, 1979) Hungarian Ethnographical Encyclopaedia

Epilogue





"...The Fertő is a rather capricious lake. During the past two decades we witnessed its sudden disappearance: it dried out. It left behind its dried out bed... and then it again changed its mind: it appointed itself a lake again, reoccupying its previous dignity, and the crops and farmsteads disappeared once again, under the green mirror of waves...

Such an enchanting game the Fertő has often played with mortals.

In 1737 people waded through the lake on foot between Ruszt and Ilmic on the opposite shore of the lake."

That is how Mór Jókai, the great tale-teller referred to the Fertő lake in his novel "Nameless Castle" published in 1877. What he described was the reality. The last big drying out of the lake took place between 1868 and 1872, when the horses of the hussars kicked up dust, even on the bed of the deeper lake Velence... But that was not the first drying out of the Fertő. Pilnius had already mentioned it. A peculiar lake, it is!... If not the weather, then people intervened in its life. The emptying of the lake was seriously considered at the turn of the century, luckily it remained only a plan. Later, due to the strictly guarded border, and the border zone, it became a real taboo for decades. Of course, we knew that it existed, also that it was ours - true only one-fifth of it since Trianon (1920). But we were not allowed to see it, or to visit its wonderworld of nature. There were people, who tried to make use of this impassable, and opaque waterworld. There were those who made it – and there were those whom the lake swallowed for ever, just like the Istók Hany of the legends...

The Austrian side began to deal in earnest with declaring the region partly protected as early as the nineteen sixties. In Hungary the turn came when a landscape protection zone was established on a territory of 12.542 hectares, which UNESCO declared a biosphere reserve in the framework of the Programme 'Man and the Biosphere' in 1979. It immediately "turned out" that the biological and ecological significance of the lake spreads by far beyond our borders, because Hungary's second largest lake is the last, westernmost member of the chain of European flatland alkali steppe lakes. The lake – it is estimated to be 20 thousand years old – has a length of 35 kilometres and a width varying between 7 and 15 kilometres. Its surface of 309 square kilometres – with its huge, uninterrupted areas of reeds and huge, open water surfaces, which are

mainly typical of the Austrian part of the lake, is a popular territory for waterbirds. Its international importance was recognized in the Ramsar Convention in 1989.

From here the road was straight: in 1991 the Lake Fertő National Park was established as Hungary's fifth national park and, at the same time, as part of the future Austrian-Hungarian joint Fertő lake National Park. When establishing it, the proposals of the International Union for Conservation of Nature and Natural Resources (IUCN) were taken into account, therefore the area was divided into three zones: the first zone, with a territory of 3300 hectares, is the nature zone, this is the most strictly protected and, at the same time, the most valuable part of the area. In the protection zone, also with a territory of 3300 hectares, traditional activities typical of the area (grazing, reed cutting) are allowed with supervision. And finally, the third zone is what we could call the tourist zone, with a territory of 5943 hectares. This is the place that tourists can visit, where their demands can be met. The PHARE programme of the EC has provided ECU 1.4 million (the equivalent of HUF 140 million) for developing the infrastructure of the Park. In Sarród, the directorate and the centre for environment, nature protection and education is being built.

Since Lake Fertő and the Hanság (today a landscape protection zone) used to form one water-system until man changed the face of the landscape, there are plans to connect the most valuable parts of the Hanság to the National Park. And if we take into account the cultural and historical values of this region (the Esterházy Palace in Fertőd, the Széchenyi Castle Museum and the famous lime-tree avenue in Nagycenk,) then it is all the more welcome for these assets to be much more in the limelight of international attention and interest.

This picture book could not end in a nicer way.

The joint national park of two neighbouring nations could be of exemplary value in weather-ravaged Central Europe. Many nations cannot boast of having even one. We, Hungarians are now working on putting a fifth into operation. And the fact that this fifth will be a joint Austrian–Hungarian venture, symbolizes for me, more than anything else, the magnificent shouldering of responsibility which stimulates creative action, the participation of each and every expert and citizen in the saving of our natural environment.





The outstanding geological sight of the Lake Fertő region is the stone-pit near Fertőrákos. The lajta limestone, which is estimated to be 12 million years old, was primarily made up of the calcareous carcasses of living creatures (oysters, shell-fish, etc.) in the one time Pannon Sea. Stone mining began here in Roman times and the mine worked until 1949. This excellent building material was used in the construction of a number of public buildings in Sopron and Vienna.



The wet marsh meadows around the lake are the habitats of rare plants and birds. During spring and autumn, migrating curlews can be seen frequently, but only rarely do one or two pairs venture here to nest.

The advancing alluvium of the Lake Fertő is well indicated by the gaining ground of reeds, especially on the Southern, that is the Hungarian, part of the shore. There are settlements where the only way to reach the open water surface, is to cut a more then 5 kilometre long channel through the reeds.



The mute swan used to nest in the meadow-land of the huge reeds. In 1970, after an interval of decades, it was first noticed nesting in Fertőrákos.



## Hortobágy National Park

Year of foundation: 1972 Territory: 52 000 hectares

Directorate: 4024 Debrecen, Sumen u. 2.

Telephone: (52) 349-922, 349-482, 349-682

Fax: (52) 310-645 Telex: 72-515

Places to visit:

Körszin-Hortobágy-Exhibition: The Natural History and

Ethnography of Hortobágy

Open: April 1 to October 30, 10-18, Mondays closed

Hortobágy National Park Western Rest House – Patkós:

Exhibition: Works of artists from the Hortobágy Creative Camp

The Hortobágy of Móricz-sketches

Open April 1 to October 30, 9-17, Mondays closed Accommodation: 2 double rooms, 2 four-bedded rooms

Telephone: Egyek 54

To get there take the Egyek turn off on Road 33.

Meggyes Inn:

Exhibition: Inn Museum, the rooms and the furniture recall the

turn of the century

Open 9-17, Mondays closed

To get there take the unsurfaced road at the 60-km sign on

Road 33.

Halastó Watch House-Hortobágy-Halastó

Exhibition: The Waterworld of Hortobágy

Open 9-17, all year round Telephone: (52) 369-127

Research House, Darassa

Exhibition: The Natural Values of the Hortobágy Forests

Open: with prior notice, all year round

To get there take the road between Balmazújváros and Tiszacsege

and look out for the signposts.

Telephone: 370-098

Country House, Nagyiván

Exhibition: country house, furnished in the style of the turn of the

Open: with prior notice, all year round, 9-17

Telephone: (59) 354-217

For more information about the exhibition venues, above, please contact TURINFORM Tourist Information Bureau: Debrecen, Piac u. 20.

Telephone: (52) 312-250, 314-139

## Kiskunság National Park

Directorate: 6000 Kecskemét, Liszt F. u. 19.

Telephone: 76/492-611 Telefax: 76/481-074 Telex: 26-588



1 erri	tory:		
I.	Upper-Kiskunság puszta	11 0	61 hectares
II.	Upper-Kiskunság Lakes	3 9	05 hectares
III.	Kolon-Lake at Izsák	2 9	62 hectares
IV.	Dune area of Fülöpháza	19	92 hectares
V.	Orgovány meadows	3 7	53 hectares
VI.	Pusztas and Dune world of		
	Bócsa-Bugac	11 4	88 hectares
VII.	Tőserdő and backwater of		
	Tisza at Szikra	6	98 hectares
	Total territory	35 8	59 hectares

#### 2. Places to visit – exhibitions

Kiskunság Shepherd Museum, - Bugacpuszta The Shepherds'life and natural values of Kiskunság Open April 1 to September 30, 10–18, resp. appointments

Museum of local history, Kunszentmiklós

The remains of shepherds' life of Upper-Kiskunság

The natural values of Upper-Kiskunság

Archeological and local historical remains of Upper-Kiskunság

Petőfi memorial room

Open:	November 1 to April 30	Saturday	14-17
		Sunday	9-12
	May 1 to October 1	Tuesday	9-12
		Wednesday	14-17
		Friday	9-12
		Saturday	14-17
		Sunday	9-12

Programmes organized by Nyakvágó Ltd. or appointments.

Telephone: 76/351-353

Nyakvágó Csárda Museum – near the road of

Kunszentmiklós-Szabadszállás

Csárda Museum – peasant room and kitchen Open: within the programmes of Nyakvágó Ltd.

Telephone: 76/351-198

### Bükk National Park

Year of Foundation: 1976 Territory: 39 000 hectares

Directorate: 3304 Eger/Felnémet, Sánc u. 6.

Telephone: (36) 311-581 Fax: (36) 312-791 Telex: 63406 bnp h

Places to visit:

Herman Ottó park – Miskolc, Csanyik telephone (46) 370-239 Visitors' Centre with exhibition. The rocks of Bükk mountain –

open air exhibition

Services: sale of publications, reservation video programmes

Open November 1 to March 31, 10-16

rest of the year 10–18 Mondays closed

Anna-Cave - Miskolc, Lillafüred

Travertine cave

Services: tours of the cave, built in lights, sale of publications

Open April 16 to November 15, 9–17

rest of the year 9–16 Mondays closed

Szent István Cave - Miskolc, Lillafüred

Stalactite cave ·

Services: tours of the cave, built in lights, sale of publications

Open April 16 to October 15, 9-17

rest of the year 9–16

Mondays closed

Orbán-House - Szilvásvárad

The natural view of Bükk exhibition – common exhibition with

the Directorate of Museums of Heves County

Open 9-17, Mondays closed

Oszla forester's lodge

South-Bükk Répáshuta - Cserépfalu on secondary road

Exhibition of local history

Open: visits by appointment only

# Aggtelek National Park

Year of foundation: 1985. Territory: 19 708 hectares

Previously: 1978, Aggtelek Zone of Region Protection (19 595

hectares)

1985, foot of Esztramos (113 hectares)

Directorate: 3758 Jósvafő, Tengerszem oldal 1.

Telephone/Fax: (48) 312-700 Telex: Aggtelek 64-332

Jósvafő 64-294

Places to visit:

Cave Museum: Exhibition on the Aggtelek National Park

Open 8-17

Services: tours of the cave (information at the entrance ticket

offices in Aggtelek and Jósvafő)

## Fertő Lake National Park

Year of foundation: 1991. Territory: 12 543 hectares

Previously: Fertő Lake Zone of Region Protect

Directorate: 9400 Sopron, Károlymagaslati út 14.

Telephone: (99) 316-894, 311-652

Fax: (99) 311-652

Places to visit:

Hanság Museum – Öntésmajor

Exhibition entitled The Wildlife of the Hanság

Open 9-16 on weekdays

with prior notice at the weekends

Services: sale of maps, brochures, stickers

Madárvárta – Osli

Training centre, with a botanical and zoological collection

Open: if agreed upon in advance Services: sale of publications

Fertő Lake National Park Manor, Lászlómajor and Fertőújlak

(Mekszikópuszta)

A manor at the bridge over the Hanság main channel.

Reserve showing Hungary's typical ancient domesticated animals.

Open 8-17, all year round

Nyéki-szállás, Pap-rét, wildlife of alkali lakes

Visits by appointment only.

Services: guiding, sale of publications (maps, brochures, stickers)

Text and photographs: © György Kapocsy

Layout: Julianna Rácz

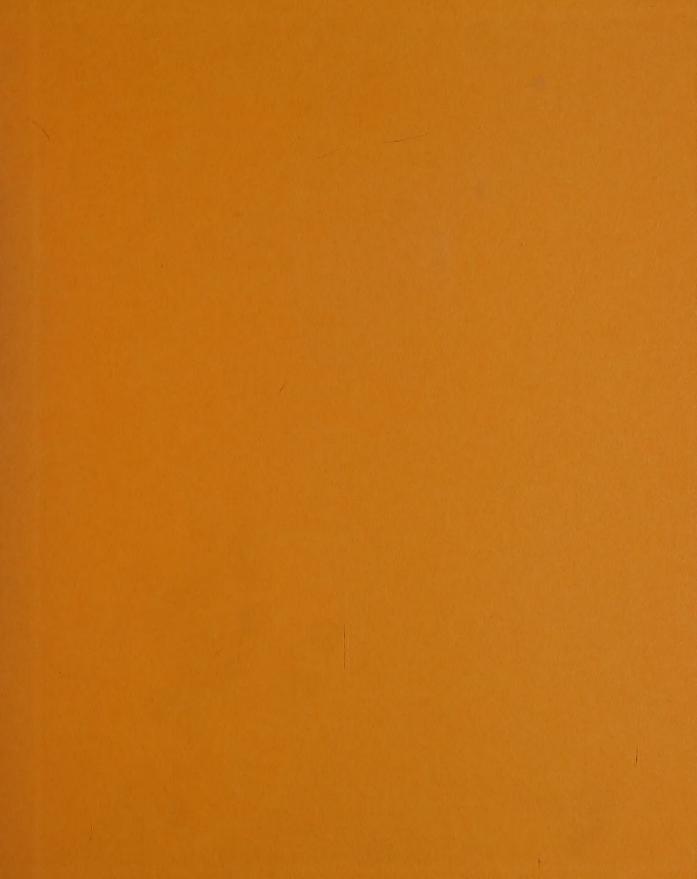
English translation: Zsuzsa Fehér

Published by: OFFICINA NOVA (Founded by Kossuth Printing House in 1987) Publisher in charge: Katalin Balogh, director Editor in charge: Éva B. Fizil Technical manager: János Szilassy Technical editor: Dezső Varga Printed by Kner Printing House, Békéscsaba, Hungary, 1993 Project manager: Miklós Balog, President-Director-General

ISBN 963 8185 38 4







This was another nice, a very nice day of my life.

I have passed the time with nature, my dearest friend,

who has no secret whatsoever before me.

